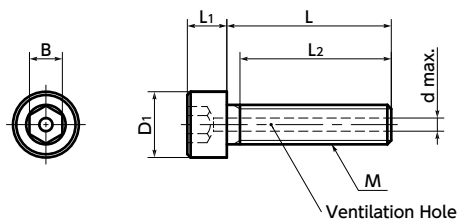
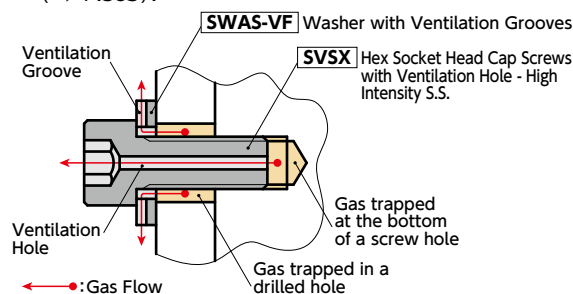


SVSX Hex Socket Head Cap Screws with Ventilation Hole - High Intensity S.S.

WEB Selection Tool WEB CAD Download Vacuum Cleanroom wash & packaging Heat-resistance Chemical-proof Non-Magnetic High strength SUS Stainless steel



- Usage example
Gas trapped at the bottom of a screw hole is released through **SVSX**, and gas trapped in a drilled hole is released through **SWAS-VF** (→ P.583).



- Part number specification

SVSX - M5 - 25 - 88

Product Code 1 2 Strength Class

- Made of high strength stainless steel (Strength class 8.8).
- The ventilation hole easily releases gas trapped in the screw holes of equipment and machines, and supports vacuum drawing of vacuum devices.
- Excellent heat resistance and corrosion resistance.
- Nonmagnetic.
- About the characteristics of SUS316L HiMo → P.625

- Application

Vacuum devices, vacuum chambers, FPD production equipment, semiconductor devices, and electron microscopes

- Material/Finish

	SVSX
Main Body	SUS316L HiMo
Strength Class	8.8

- Related Products

For ventilation of drilled hole, please use **SWAS-VF**. → P.583**SVSX**, which does not have a ventilation hole, is available. → P.625

Part Number	M	1	L	2	D1	L1	L2*1	B	d	Mass (g)
SVSX-M3-88	M3	6	8	10 12 16 20 25	5.5	3	18(L=25)	2.5	1.2	0.71 - 1.6
SVSX-M4-88	M4	6	8	10 12 16 20 25	7	4	Full Thread	3	1.5	1.5 - 3.2
SVSX-M5-88	M5			10 12 16 20 25 30	8.5	5	22(L=30)	4	1.5	2.7 - 5.6
SVSX-M6-88	M6			12 16 20 25 30 10	10	6	Full Thread	5	2	5.1 - 8.3

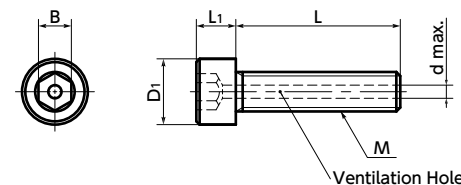
*1: If the "L" value is other than the value in parentheses, the screw is full thread.

Part Number	Qty per pack
SVSX-M3-88	1
SVSX-M4-88	1
SVSX-M5-88	1
SVSX-M6-88	1

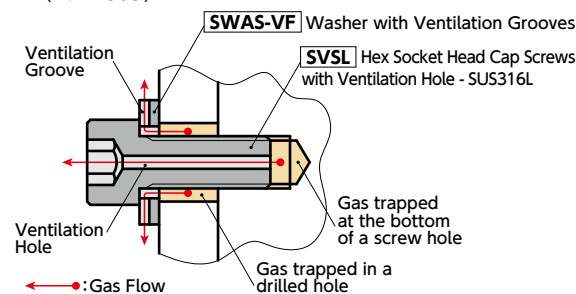
1 Individual Sales → P.809 Cleanroom Wash & Packaging → P.807 Screw Length Adjustment → P.811 Vibration Resistant → P.810 Modification process for captive use → P.806
1 unit in 1 bag Cleanroom washed and packed Available / Add'l charge Not Available Please feel free to contact us

SVSL Hex Socket Head Cap Screws with Ventilation Hole - SUS316L

WEB Selection Tool WEB CAD Download Vacuum Cleanroom wash & packaging Heat-resistance SUS Stainless steel



- Usage example
Gas trapped at the bottom of a screw hole is released through **SVSL**, and gas trapped in a drilled hole is released through **SWAS-VF** (→ P.583).



- Part number specification

SVSL-M5-25

1 2

Order in number of packs.
Also sold separately from 1 piece up. → P.809

- Made of SUS316L. Excellent corrosion resistance.
- The ventilation hole easily releases gas trapped in the screw holes of equipment and machines, and supports vacuum drawing of vacuum devices.
- Cleanroom wash and cleanroom packing are completed. → P.807

- Application

Vacuum devices, vacuum chambers, FPD production equipment, semiconductor devices, and electron microscopes

- Material/Finish

	SVSL
Main Body	SUS316L
Strength Class	A4-70

- Related Products

For ventilation of drilled hole, please use **SWAS-VF**. → P.583

Part Number	M	L	1	2	D1	L1	B	d	Mass (g)
SVSL-M3	M3	5	6 8 10 12 16		5.5	3	2.5	1.2	0.67 - 1.2
SVSL-M4	M4	5	6 8 10 12 16 20 25		7	4	3	1.5	1.4 - 3.2
SVSL-M5	M5		6 8 10 12 16 20 25		8.5	5	4	1.5	2.2 - 4.8
SVSL-M6	M6		8 10 12 16 20 25 30		10	6	5	2	4.3 - 8.3
SVSL-M8	M8			12 16 20 25 30 35	13	8	6	2	11 - 19
SVSL-M10	M10			16 20 25 30 35 40	16	10	8	3	21 - 33
SVSL-M12	M12				18	12	10	3	39 - 50

Part Number	Qty*1 per pack
SVSL-M3	20
SVSL-M4	20
SVSL-M5	10
SVSL-M6	10
SVSL-M8	10
SVSL-M10	5
SVSL-M12	5

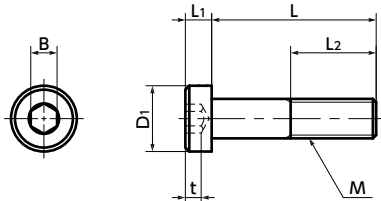
*1: Also sold separately from 1 piece up. → P.809

1 Individual Sales → P.809 Cleanroom Wash & Packaging → P.807 Screw Length Adjustment → P.811 Vibration Resistant → P.810 Modification process for captive use → P.806
Available / Add'l charge Cleanroom washed and packed Available / Add'l charge Not Available Please feel free to contact us

SLHS Hex Socket Head Cap Screws with Low Profile (SUSXM7)

WEB Selection Tool WEB CAD Download Protrusion SUS Stainless steel

e-nedzi.com



Material/Finish

RoHS2 Compliant

	SLHS
Material	SUSXM7 (Equivalent to SUS304)
Strength	A2-50

- Socket head cap screws have low profile.
- Intended for reducing the size of devices and applications with limited overhead space.
- Also, [SVLS] Socket Head Cap Screws with Low Profile with Ventilation holes are available. ➔ P.574

Application

Reducing the size of equipment and devices

SLHS SUSXM7

Unit : mm

Part Number	M	L	D1	L2*1	Max. Torque (N·m)	Mass (g)
SLHS-M2	M2	5 6 8 10 12	4.5	0.7 Full Thread	0.18	0.13 - 0.29
SLHS-M2.5	M2.5	5 6 8 10 12	5.5	1 Full Thread	0.36	0.26 - 0.47
SLHS-M3	M3	5 6 8 10 12 16 20	6.5	2 1.5 12(L=20)	0.6	0.5 - 1.2
SLHS-M4	M4	6 8 10 12 16 20 25	8.5	2.8 2.5 2.3 Full Thread	1.5	1.1 - 2.8
SLHS-M5	M5	8 10 12 16 20 25 30	10.5	3.5 3 2.7 16(L≥30)	3.1	1.8 - 5.7
SLHS-M6	M6	8 10 12 16 20 25	12.5	4 3 18(L≥30)	5.3	3.1 - 11
SLHS-M8	M8	10 12 16 20	16.5	5 3.8 22(L≥35)	12	7.2 - 22
SLHS-M10	M10	16 20 25 30 35 40 45	21.5	4.5 32(L≥45)	25	15 - 33

*1 : If the "L" value is other than the value in the table, the screw is full thread.
*2 : The hexagonal width across flat of the screw head is changed from 7 to 8.

Part Number	Qty*1 per pack
SLHS-M2	50
SLHS-M2.5	50
SLHS-M3	50
SLHS-M4	50
SLHS-M5	50
SLHS-M6	50
SLHS-M8	50
SLHS-M10	50

*1 : Also sold separately from 1 piece up. ➔ P.809

Part number specification

SLHS-M5 - 20

1 2

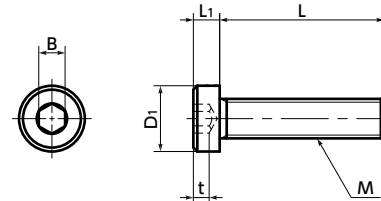
Order in number of packs.
Also sold separately from 1 piece up. ➔ P.809

1 Individual Sales ➔ P.809 2 Cleanroom Wash & Packaging ➔ P.807 3 Screw Length Adjustment ➔ P.811 4 Vibration Resistant ➔ P.810 5 Modification process for captive use ➔ P.806
Available / Add'l charge Available / Add'l charge Available / Add'l charge Available / Add'l charge Available / Add'l charge

SLHL Socket Head Cap Screw - Low Profile - SUS316L

WEB Selection Tool WEB CAD Download Protrusion Heat-resistance Chemical-proof Non-Magnetic High strength SUS Stainless steel

e-nedzi.com



- To distinguish from [SLHS], following processing are made.

[SLHL-M3] [SLHL-M4] : Cup-pointed at screw tips



[SLHL-M5] [SLHL-M6] : Indicated as "A4" on the top of screw heads



- Socket head cap screws with low profile made of SUS316L.
- Intended for reducing the size of devices and applications with limited overhead space.
- Compared to SUS304, SUS316L has excellent hydrogen embrittlement resistance, fluorine and chlorine gas resistance, and heat resistance. This screw also has corrosion resistance against chemical products and seawater environments that matches or exceeds SUS304.
- SUS316L is non-magnetic.

Application

Reducing the size of equipment and devices
FPD production equipment/Semiconductor devices/
Aquatic applications/General industrial machines

Material/Finish

RoHS2 Compliant

	SLHL
Main Body	SUS316L
Strength Class	A4-70

- Do not exceed the max. tightening torque.

Part number specification

SLHL-M5 - 16

1 2

Order in number of packs.
Also sold separately from 1 piece up. ➔ P.809

SLHL SUS316L

Unit : mm

Part Number	M	L	D1	L1	B	t	Max. Torque (N·m)	Mass (g)
SLHL-M3	M3	6 8 10	5.5	2	2	1.5	1.2	0.53 - 0.7
SLHL-M4	M4	6 8 10 12	7	2.8	2.5	2.3	3.2	1.1 - 1.6
SLHL-M5	M5	8 10 12 16	8.5	3.5	3	2.7	6.4	1.8 - 2.8
SLHL-M6	M6	10 12 16 20	10	4	4	3	11	3.5 - 5.3

Part Number	Qty*1 per pack
SLHL-M3	20
SLHL-M4	20
SLHL-M5	10
SLHL-M6	10

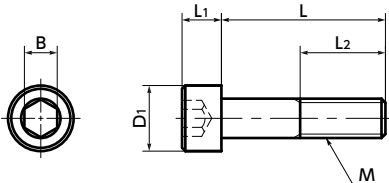
*1 : Also sold separately from 1 piece up. ➔ P.809

1 Individual Sales ➔ P.809 2 Cleanroom Wash & Packaging ➔ P.807 3 Screw Length Adjustment ➔ P.811 4 Vibration Resistant ➔ P.810 5 Modification process for captive use ➔ P.806
Available / Add'l charge Available / Add'l charge Available / Add'l charge Available / Add'l charge Available / Add'l charge



SNSX Hex Socket Head Cap Screws - High Intensity S.S.

WEB Selection Tool WEB CAD Download SUS Stainless steel Heat-resistance Chemical-proof Non-Magnetic High strength



● Application

FPD production equipment, semiconductor devices, sputtering equipment, aquatic applications, and general industrial machines

● Material/Finish

RoHS2 Compliant

	SNSX-88	SNSX-109
Main Body	SUS316L HiMo	SUS316L HiMo
Strength Class	8.8	10.9

SNSX-88														Unit : mm	
Part Number	M	L								Strength Class	D1	L1	B	L2*1	Mass (g)
SNSX-M3-88	M3	6	8	10	12	16	20	25		8.8	5.5	3	2.5	18(L=25)	0.71 - 1.6
SNSX-M4-88	M4	6	8	10	12	16	20	25		8.8	7	4	3	Full Thread	1.5 - 3.2
SNSX-M5-88	M5			10	12	16	20	25	30	8.8	8.5	5	4	22(L=30)	2.7 - 5.6
SNSX-M6-88	M6				12	16	20	25	30	8.8	10	6	5	Full Thread	5.1 - 8.3
SNSX-M8-88	M8					16	20	25	30	8.8	13	8	6	28(L=40)	12 - 21

*1 : If the " L " value is other than the value in parentheses, the screw is full thread.

Part Number	Qty per pack
SNSX-M3-88	1
SNSX-M4-88	1
SNSX-M5-88	1
SNSX-M6-88	1
SNSX-M8-88	1

SNSX-109														Unit : mm	
Part Number	M	L								Strength Class	D1	L1	B	L2*1	Mass (g)
SNSX-M6-109	M6	16	20	25	30	40	50			10.9	10	6	5	24(L≥40)	5.8 - 13
SNSX-M8-109	M8	16	20	25	30	40	50			10.9	13	8	6	28(L≥40)	12 - 25
SNSX-M10-109	M10		20	25	30	40	50			10.9	16	10	8	32(L=50)	23 - 39
SNSX-M12-109	M12				30	40	50			10.9	18	12	10	Full Thread	39 - 55

*1 : If the " L " value is other than the value in parentheses, the screw is full thread.

Part Number	Qty per pack
SNSX-M6-109	1
SNSX-M8-109	1
SNSX-M10-109	1
SNSX-M12-109	1

1 Individual Sales → P.809	Cleanroom Wash & Packaging → P.807	Screw Length Adjustment → P.811	Vibration Resistant → P.810	Modification process for captive use → P.806
1 unit in 1 bag	Please feel free to contact us	Available / Add'l charge	Available / Add'l charge	Available / Add'l charge

● Mechanical property

Part Number・Strength Class\Property	Tensile Strength (N / mm ²)	Proof Stress (N / mm ²)	Elongation after Break Minimum (mm)
A2-50・A4-50	500	210	0.6d
A2-70・A4-70	700	450	0.4d
SNSX-88 8.8	800	640	0.3d
SNSX-109 10.9	1,000	900	0.2d

● Values in chart are for reference only. They are not guaranteed values.

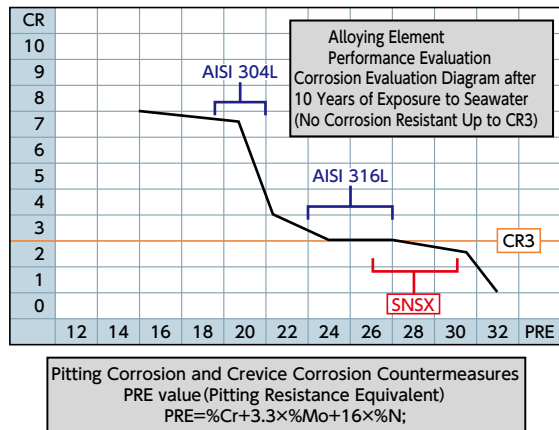
● Durability by temperature (N/mm²)

Part Number・Material	20℃	100℃	200℃	300℃	400℃	500℃	600℃
SNSX-88 SUS316L HiMo	640	576	576	544	512	480	448
SNSX-109 SUS316L HiMo	900	855	855	855	810	810	765
SUSXM7	450	382	360	337	315	—	—
SCM435	1,100	1,020	925	825	—	—	—

● Values in chart are for reference only. They are not guaranteed values.

● Result of corrosion test by metal materials
SUS316L HiMo steel used in SNSX is a special steel alloy with reduced carbon and increased Cr, Ni, and Mo. Reducing carbon shows an increased resistance to grain boundary corrosion cracking, and adding Cr and Mo increases resistance to pitting corrosion and crevice corrosion. In addition, adding Ni effectively reduces the risk of stress corrosion cracking.

The chart above shows the degree of corrosion after 10 years of exposure to conditions similar to seawater environment, and there was no corrosion for CR3 or lower.



● Sulfuric acid corrosion test (H₂SO₄, 50℃ and mm / year)

Part Number・Material\Density	3%	10%	20%
SUS304	1.08	3	—
SUS316, SUS316L	0	0.3	1.3
SNSX-88 SNSX-109	0	0	0.44

● Values in chart are for reference only. They are not guaranteed values.

● Magnetic permeability comparison

Part Number・Material	Amplitude Permeability
SNSX-88 SUS316L HiMo	1.006
SNSX-109 SUS316L HiMo	1.007
SNSL SUS316L	1.015
SUSXM7	1.4

● Values in chart are for reference only. They are not guaranteed values.

● Related Products

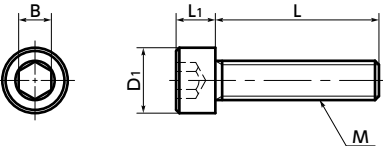
SNSX, a type with a ventilation hole is available.
→ P.571



● Part number specification

SNSX - M3 - 25 - 88

Product Code 1 2 3



● Material/Finish



	SNSL
Main Body	SUS316L
Strength Class	A4-70

- These screws have corrosion resistibility against chemical products and seawater environments that matches or exceeds SUS304.
- Nonmagnetic.
- SUS316L is a stainless steel made by adding Mo to SUS304, so it has high pitting corrosion and oxidation resistance. Due to its reduced carbon, it also has high intergranular corrosion resistibility.
- High strength even under high temperatures because of basic components include Mo.
- Application
FPD production equipment, semiconductor devices, aquatic applications, and general industrial machines

Unit : mm

Part Number	M	L										D1	L1	B	Mass (g)
SNSL-M3	M3	5	6	8	10	12	16					5.5	3	2.5	0.67 - 1.2
SNSL-M4	M4	5	6	8	10	12	16	20	25			7	4	3	1.4 - 3.2
SNSL-M5	M5		6	8	10	12	16	20	25			8.5	5	4	2.2 - 4.8
SNSL-M6	M6			8	10	12	16	20	25	30		10	6	5	4.3 - 8.3
SNSL-M8	M8					12	16	20	25	30	35	13	8	6	11 - 19

Part Number	Qty*1 per pack
SNSL-M3	5
SNSL-M4	5
SNSL-M5	5
SNSL-M6	5
SNSL-M8	5

*1 : Also sold separately from 1 piece up. ➡ P.809

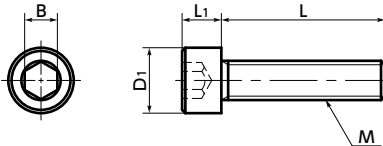
● Part number specification

SNSL-M5-16



Order in number of packs.
Also sold separately from 1 piece up. ➡ P.809

1 Individual Sales ➡ P.809	Cleanroom Wash & Packaging ➡ P.807	Screw Length Adjustment ➡ P.811	Vibration Resistant ➡ P.810	Modification process for captive use ➡ P.806
Available / Add'l charge	Available / Add'l charge	Available / Add'l charge	Available / Add'l charge	Available / Add'l charge



● Mechanical property

	SUS310S
Tensile Strength (N/mm ²)	520 or Higher
0.2% Proof Stress (N/mm ²)	205 or Higher
Elongation (%)	40 or Higher
Hardness (HRB)	90 or Less

● Values in chart are for reference only. They are not guaranteed values.

● Physical property

	SUS310S
Specific Gravity	7.98
Heat Resistance Temperature*1 (°C)	700
Electric Resistance (μΩ · m)	0.78
Specific Heat (J/kg · K)	500
Thermal Conductivity (W / (m · K))	14
Linear Expansion Coefficient (K ⁻¹)	15.9×10 ⁻⁶

*1 : This is the heat resistance temperature of the SUS310S material.

- Values in chart are for reference only. They are not guaranteed values.
- When heated to 700 deg C, tensile strength drops approximately 60% and proof stress drops approximately 40%.
- Make sure to carry out tests under the same condition of actual use in advance to confirm safety.

- Compared to SUS304, SUS310S has excellent heat resistance, oxidation resistance, and nitric acid resistance compared to SUS304.
- Austenitic series stainless steel with high Ni content, which is effective for corrosion resistance and high temperature characteristics.
- Cleanroom wash and cleanroom packing are completed. ➡ P.807

● Application

FPD production equipment, semiconductor devices, nitric acid plants, and aquatic applications

● Material/Finish



	SNSJ
Main Body	SUS310S

● Part number specification

SNSJ-M5-16



Unit : mm

Part Number	M	L										D1	L1	B	Tension*1 Rupture Load (N)	Mass (g)
SNSJ-M3	M3	6	8	10	12	16	20					5.5	3	2.5	2610	0.71 - 1.4
SNSJ-M4	M4		8	10	12	16	20	25				7	4	3	4560	1.7 - 3.2
SNSJ-M5	M5			10	12	16	20	25				8.5	5	4	7380	2.7 - 4.8
SNSJ-M6	M6				12	16	20	25	30			10	6	5	10400	5.1 - 8.3
SNSJ-M8	M8					16	20	25	30	35		13	8	6	19000	12 - 19
SNSJ-M10	M10						20	25	30	35	40	16	10	8	30100	23 - 33

*1 : Values in chart are for reference only. They are not guaranteed values.

Part Number	Qty per pack
SNSJ-M3	1
SNSJ-M4	1
SNSJ-M5	1
SNSJ-M6	1
SNSJ-M8	1
SNSJ-M10	1

1 Individual Sales ➡ P.809	Cleanroom Wash & Packaging ➡ P.807	Screw Length Adjustment ➡ P.811	Vibration Resistant ➡ P.810	Modification process for captive use ➡ P.806
1 unit in 1 bag	Cleanroom washed and packed	Available / Add'l charge	Available / Add'l charge	Available / Add'l charge

SHNJ / SWAJ

Hex Nuts / Washers - SUS310S

WEB Selection Tool

CAD Download

Cleanroom wash & packaging

Heat-resistance

Chemical-proof

SUS Stainless steel

SHNJ

SWAJ-F

B

T

M

t

D

d

SHNJ

SWAJ-F

● Mechanical property

	SUS310S
Tensile Strength (N/mm ²)	520 or Higher
0.2% Proof Stress (N/mm ²)	205 or Higher
Elongation (%)	40 or Higher
Hardness (HRB)	90 or Less

● Values in chart are for reference only. They are not guaranteed values.

● Physical property

	SUS310S
Specific Gravity	7.98
Heat Resistance Temperature*1 (°C)	700
Electric Resistance (μΩ · m)	0.78
Specific Heat (J/kg · K)	500
Thermal Conductivity (W / (m · K))	14
Linear Expansion Coefficient (K ⁻¹)	15.9 × 10 ⁻⁶

*1 : This is the heat resistance temperature of the SUS310S material.

● Values in chart are for reference only. They are not guaranteed values.

● When heated to 700 deg C, tensile strength drops approximately 60% and proof stress drops approximately 40%.

● Make sure to carry out tests under the same condition of actual use in advance to confirm safety.

● Compared to SUS304, SUS310S has excellent heat resistance, oxidation resistance, and nitric acid resistance compared to SUS304.

● Austenitic series stainless steel with high Ni content, which is effective for corrosion resistance and high temperature characteristics.

● Use in combination with **SNSJ** Socket Head Cap Screw (SUS310S) ➡ P.628

● Cleanroom wash and cleanroom packing are completed. ➡ P.807

● Application

FPD production equipment, semiconductor devices, nitric acid plants, and aquatic applications

● Material/Finish

RoHS2 Compliant

	SHNJ	SWAJ-F
Main Body	SUS310S	SUS310S

● Part number specification

SHNJ-M5

1

SHNJ Hex Nuts

Unit : mm

Part Number	M	B	T	Mass (g)	Qty per pack
SHNJ-M3	M3	5.5	2.4	0.35	1
SHNJ-M4	M4	7	3.2	0.81	1
SHNJ-M5	M5	8	4	1.2	1
SHNJ-M6	M6	10	5	2.5	1
SHNJ-M8	M8	13	6.5	5.6	1
SHNJ-M10	M10	17	8	12	1

SWAJ-F Washers

Unit : mm

Part Number	Nominal	d	D	t	Mass (g)	Qty per pack
SWAJ-3-F	3	3.2	7	0.5	0.12	1
SWAJ-4-F	4	4.3	9	0.8	0.31	1
SWAJ-5-F	5	5.3	10	1	0.45	1
SWAJ-6-F	6	6.5	13	1	0.79	1
SWAJ-8-F	8	8.5	18	1.5	2.4	1
SWAJ-10-F	10	10.5	22	1.5	3.5	1

1 Individual Sales ➡ P.809

Cleanroom Wash & Packaging ➡ P.807

Screw Length Adjustment ➡ P.811

Vibration Resistant ➡ P.810

Modification process for captive use ➡ P.806

1 pc. in 1 bag

Cleanroom washed and packed

Not Available

Not Available

Not Available

Selection Navigator

NBK

CAD Data Download

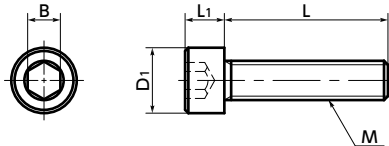
<https://www.nbk1560.com/>

Special Screws
Vacuum Application
Low Profile, Small Head
High Performance SS.
Titanium
Special Material
Chemical Resistance
Special Surface Treatment
Miniature
Captive/ Full Thread
Functional
Inch
Tamper Resistance
Hexalobular Socket Head
Plugs
Plastic
Washers/ Lock Nuts

629

NBK <https://www.nbk1560.com>

630



● Mechanical property

	UNS N04400 (Monel 400 equiv.)	SUS304
Tensile strength (N/mm ²)	517 - 620	520 or above
0.2% Proof Stress (N/mm ²)	172 - 345	205 or Higher
Extension (%)	35 - 60	40 or above
Hardness (HRB)	60 - 80	90 or less

● Values in chart are for reference only. They are not guaranteed values.

● Physical property

	UNS N04400 (Monel 400 equiv.)	SUS304
Specific gravity	8.80	7.93
Longitudinal elastic modulus (GPa)	179	193
Specific heat (J/kg·K)	427	500
Electric resistivity (μΩ·m)	0.5	0.7
Heat thermal conductivity (W/(m·K))	22	17
Linear expansion coefficient (K ⁻¹)	14.2 x 10 ⁻⁶ (100°C)	17.3 x 10 ⁻⁶

● Values in chart are for reference only. They are not guaranteed values.

Part Number	M	L	D1	L1	B	Tension Rupture Load*1 (N)	Mass (g)
SNSMN-M3	M3	6 8 10 12	5.5	3	2.5	2600	0.8 - 1.1
SNSMN-M4	M4	8 10 12 16 20	7	4	3	4530	1.9 - 3
SNSMN-M5	M5	10 12 16 20 25	8.5	5	4	7340	3 - 5.4
SNSMN-M6	M6	12 16 20 25 30	10	6	5	10300	5.7 - 9.4

*1 : Values in chart are for reference only. They are not guaranteed values.

Part Number	Qty per pack
SNSMN-M3	1
SNSMN-M4	1
SNSMN-M5	1
SNSMN-M6	1

● Part number specification

SNSMN-M5-16



1 Individual Sales → P.809	Cleanroom Wash & Packaging → P.807	Screw Length Adjustment → P.811	Vibration Resistant → P.810	Modification process for captive use → P.806
1 unit in 1 bag	Cleanroom washed and packed	Available / Add'l charge	Available / Add'l charge	Available / Add'l charge



- A nickel-copper alloy with resistance to fluorine gas and hydrofluoric acid.
- Excellent strength compared to pure nickel or copper.
- Excellent stress corrosion cracking resistance due to chlorine ions.
- Cleanroom wash and cleanroom packing are completed. → P.807

● Application

FPD production device/Semiconductor manufacturing device/ Chemical plant/Offshore instrument

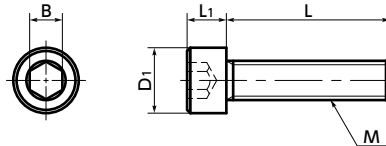
● Material/Finish



	SNSMN
Main body	UNS N04400 (Monel*1 400 equiv.)

*1 : Monel is a registered trademark of Special Metals Corporation.

Unit : mm



● Mechanical property

	Inconel (NCF600)	SUS304
Tensile Strength (N/mm ²)	548 - 695	520 or Higher
0.2% Proof Stress (N/mm ²)	205 - 352	205 or Higher
Elongation (%)	35 - 55	40 or Higher
Hardness (HRB)	65 - 85	90 or Less

● Values in chart are for reference only. They are not guaranteed values.

● Physical property

	Inconel (NCF600)	SUS304
Specific Gravity	8.42	7.93
Longitudinal Elastic Modulus (GPa)	207	193
Specific Heat (J/kg·K)	444	500
Electric Resistance (μΩ·m)	1.0	0.7
Thermal Conductivity (W/(m·K))	16.7	17
Linear Expansion Coefficient (K ⁻¹)	13.4 x 10 ⁻⁶	17.3 x 10 ⁻⁶

● Values in chart are for reference only. They are not guaranteed values.



- Screws show excellent corrosion resistance against oxidizing and reducing by inorganic and organic acids. → P.646
- Excellent resistance to stress corrosion cracking caused by hydrogen sulfide ions.
- Nearly complete corrosion resistance against ammonia.
- Excellent heat resistance and creep resistance. High strength even near 600 deg C.

● Application

FPD production equipment, semiconductor devices, printed circuit board etching devices, metallic surface treatment equipment and facilities, and chemical plants

● Material/Finish



	SNSI
Main Body	UNS N06600 (Inconel*1600 equiv.)

*1 : Inconel is a registered trademark of Special Metals Corporation.

● Part number specification

SNSI-M5-16



Unit : mm

Part Number	M	L	D1	L1	B	Tension*1 Rupture Load (N)	Mass (g)
SNSI-M3	M3	6 8 10 12 16 20	5.5	3	2.5	2750	0.77 - 1.5
SNSI-M4	M4	8 10 12 16 20 25	7	4	3	4810	1.8 - 3.4
SNSI-M5	M5	10 12 16 20 25	8.5	5	4	7780	2.9 - 5.2
SNSI-M6	M6	12 16 20 25 30	10	6	5	11000	5.5 - 9
SNSI-M8	M8	16 20 25 30 35	13	8	6	20000	13 - 21

*1 : Values in chart are for reference only. They are not guaranteed values.

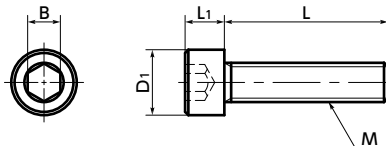
Part Number	Qty per pack
SNSI-M3	1
SNSI-M4	1
SNSI-M5	1
SNSI-M6	1
SNSI-M8	1

1 Individual Sales → P.809	Cleanroom Wash & Packaging → P.807	Screw Length Adjustment → P.811	Vibration Resistant → P.810	Modification process for captive use → P.806
1 unit in 1 bag	Cleanroom washed and packed	Available / Add'l charge	Available / Add'l charge	Available / Add'l charge



SNSM Hex Socket Head Cap Screws - Molybdenum

WEB Selection Tool WEB CAD Download Cleanroom wash & packaging Heat-resistance



● Mechanical property

	Pure Molybdenum	SUS304
Tensile Strength (N/mm ²)	515	520 or Higher
0.2% Proof Stress (N/mm ²)	380	205 or Higher
Elongation (%)	15	40 or Higher

● Values in chart are for reference only. They are not guaranteed values.

● Physical property

	Pure Molybdenum	SUS304
Specific Gravity	10.2	7.93
Longitudinal Elastic Modulus (GPa)	327	193
Electric Resistance ($\mu\Omega \cdot m$)	0.058	0.7
Thermal Conductivity (W/(m·K))	142	17
Linear Expansion Coefficient (K ⁻¹)	5.1×10^{-6}	17.3×10^{-6}

● Values in chart are for reference only. They are not guaranteed values.

- These screws are made of pure molybdenum.
- Melting Point: 2623 deg C. Excellent heat resistance.

● Application

Sputtering equipment and high temperature furnaces

● Material/Finish



	SNSM
Main Body	Pure Molybdenum

⚠ Precautions for Use

Note that in an oxidizing atmosphere, sublimation will begin at 600°C or higher.

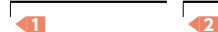
Unit : mm														
Part Number	M	L								D1	L1	B	Tension*1 Rupture Load (N)	Mass (g)
SNSM-M3	M3	6	8	10	12	16	20			5.5	3	2.5	2760	0.93 - 1.8
SNSM-M4	M4		8	10	12	16	20	25		7	4	3	4820	2.2 - 4.1
SNSM-M5	M5			10	12	16	20	25		8.5	5	4	7810	3.5 - 6.3
SNSM-M6	M6				12	16	20	25	30	10	6	5	11000	6.6 - 11
SNSM-M8	M8					16	20	25	30	35	13	8	20100	16 - 25

*1 : Values in chart are for reference only. They are not guaranteed values.

Part Number	Qty per pack
SNSM-M3	1
SNSM-M4	1
SNSM-M5	1
SNSM-M6	1
SNSM-M8	1

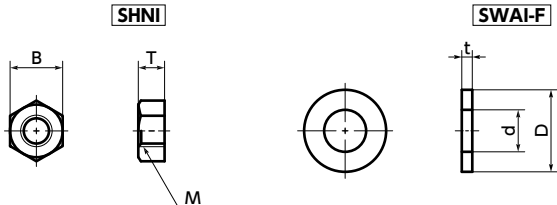
● Part number specification

SNSM-M5-16



SHNI/SWAI Hex Nuts/Washers - Inconel

WEB Selection Tool WEB CAD Download Cleanroom wash & packaging Heat-resistance Chemical-proof



● Mechanical property

	Inconel (NCF600)	SUS304
Tensile Strength (N/mm ²)	548 - 695	520 or Higher
0.2% Proof Stress (N/mm ²)	205 - 352	205 or Higher
Elongation (%)	35 - 55	40 or Higher
Hardness (HRB)	65 - 85	90 or Less

● Values in chart are for reference only. They are not guaranteed values.

● Physical property

	Inconel (NCF600)	SUS304
Specific Gravity	8.42	7.93
Longitudinal Elastic Modulus (GPa)	207	193
Specific Heat (J/kg·K)	444	500
Electric Resistance ($\mu\Omega \cdot m$)	1.0	0.7
Thermal Conductivity (W/(m·K))	16.7	17
Linear Expansion Coefficient (K ⁻¹)	13.4×10^{-6}	17.3×10^{-6}

● Values in chart are for reference only. They are not guaranteed values.

SHNI Inconel Hex Nut

Part Number	M	B	T	Mass (g)	Qty per pack
SHNI-M3	M3	5.5	2.4	0.37	1
SHNI-M4	M4	7	3.2	0.86	1
SHNI-M5	M5	8	4	1.3	1
SHNI-M6	M6	10	5	2.6	1
SHNI-M8	M8	13	6.5	5.9	1

SWAI-F Plain Washers - Inconel

Part Number	Nominal	d	D	t	Mass (g)	Qty per pack
SWAI-3-F	3	3.2	7	0.5	0.12	1
SWAI-4-F	4	4.3	9	0.8	0.31	1
SWAI-5-F	5	5.3	10	1	0.45	1
SWAI-6-F	6	6.4	12.5	1.6	1.2	1
SWAI-8-F	8	8.4	17	1.6	2.3	1

- Screws show excellent corrosion resistance against oxidizing and reducing by inorganic and organic acids. ➡ P.646
- Excellent resistance to stress corrosion cracking caused by hydrogen sulfide ions.
- Nearly complete corrosion resistance against ammonia.
- Excellent heat resistance and creep resistance. High strength even near 600 deg C.

● Application

FPD production equipment, semiconductor devices, printed circuit board etching devices, metallic surface treatment equipment and facilities, and chemical plants

● Material/Finish



	SHNI	SWAI
Main Body	NCF600 (Inconel*1)	NCF600 (Inconel*1)

*1 : Inconel is a registered trademark of Special Metals Corporation.

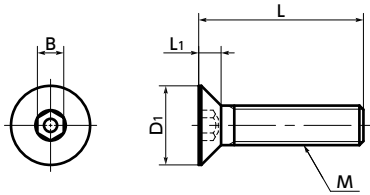
● Part number specification

SHNI-M5



1 Individual Sales ➡ P.809	Cleanroom Wash & Packaging ➡ P.807	Screw Length Adjustment ➡ P.811	Vibration Resistant ➡ P.810	Modification process for captive use ➡ P.806
1 pc. in 1 bag	Cleanroom washed and packed	Not Available	Not Available	Not Available

1 Individual Sales ➡ P.809	Cleanroom Wash & Packaging ➡ P.807	Screw Length Adjustment ➡ P.811	Vibration Resistant ➡ P.810	Modification process for captive use ➡ P.806
1 unit in 1 bag	Cleanroom washed and packed	Available / Add'l charge	Available / Add'l charge	Available / Add'l charge



● Mechanical property

	Pure molybdenum	SUS304
Tensile strength (N/mm ²)	515	520 or above
0.2% Proof Stress (N/mm ²)	380	205 or Higher
Extension (%)	15	40 or above

● Values in chart are for reference only. They are not guaranteed values.

● Physical property

	Pure molybdenum	SUS304
Specific gravity	10.2	7.93
Longitudinal elastic modulus (Gpa)	327	193
Electric resistivity (μΩ · m)	0.058	0.7
Heat thermal conductivity (W/(m · K))	142	17
Linear expansion coefficient (K ⁻¹)	5.1 x 10 ⁻⁶	17.3 x 10 ⁻⁶

● Values in chart are for reference only. They are not guaranteed values.

- Made of pure molybdenum.
- Melting point: 2623°C. Excellent heat resistance.
- The flat head does not protrude after tightening.
- Cleanroom wash and cleanroom packing are completed. ➡ P.807

● Application

Sputtering equipment and high temperature furnaces

● Material/Finish



	SNFCM
Main body	Pure molybdenum



Precautions for Use

Note that in an oxidizing atmosphere, sublimation will begin at 600°C or higher.

Unit : mm

Part Number	M	L						D1	L1	B	Tension Rupture Load*1 (N)	Mass (g)
SNFCM-M2	M2	5	6	8	10			4	1.2	1.3	1130	0.21 - 0.33
SNFCM-M3	M3		6	8	10	12		6	1.75	2	2760	0.69 - 1.0
SNFCM-M4	M4			8	10	12	16	8	2.3	2.5	4820	1.5 - 2.4

*1 : Values in chart are for reference only. They are not guaranteed values.

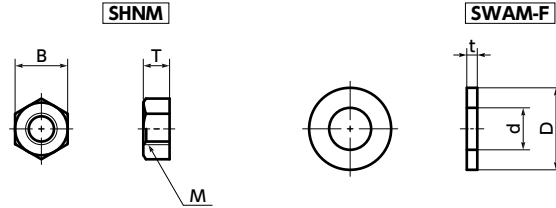
Part Number	Qty per pack
SNFCM-M2	1
SNFCM-M3	1
SNFCM-M4	1

● Part number specification

SNFCM-M2-6



1 Individual Sales ➡ P.809	Cleanroom Wash & Packaging ➡ P.807	Screw Length Adjustment ➡ P.811	Vibration Resistant ➡ P.810	Modification process for captive use ➡ P.806
1 unit in 1 bag	Cleanroom washed and packed	Available / Add'l charge	Available / Add'l charge	Not Available



● Mechanical property

	Pure Molybdenum	SUS304
Tensile Strength (N/mm ²)	515	520 or Higher
0.2% Proof Stress (N/mm ²)	380	205 or Higher
Elongation (%)	15	40 or Higher

● Values in chart are for reference only. They are not guaranteed values.

● Physical property

	Pure Molybdenum	SUS304
Specific Gravity	10.2	7.93
Longitudinal Elastic Modulus (GPa)	327	193
Electric Resistance (μΩ · m)	0.058	0.7
Thermal Conductivity (W/(m · K))	142	17
Linear Expansion Coefficient (K ⁻¹)	5.1 x 10 ⁻⁶	17.3 x 10 ⁻⁶

● Values in chart are for reference only. They are not guaranteed values.

- These nuts and washers are made of pure molybdenum.
- Melting Point: 2623 deg C. Excellent heat resistance.

● Application

Sputtering equipment and high temperature furnaces

● Material/Finish



	SHNM	SWAM
Main Body	Pure Molybdenum	Pure Molybdenum



Precautions for Use

Note that in an oxidizing atmosphere, sublimation will begin at 600°C or higher.

Unit : mm

SHNM Hex Nuts - Molybdenum

Part Number	M	B	T	Mass (g)	Qty per pack
SHNM-M3	M3	5.5	2.4	0.44	1
SHNM-M4	M4	7	3.2	1	1
SHNM-M5	M5	8	4	1.6	1
SHNM-M6	M6	10	5	3.2	1
SHNM-M8	M8	13	6.5	7.1	1

SWAM-F Plain Washers - Molybdenum

Unit : mm

Part Number	Nominal	d	D	t	Mass (g)	Qty per pack
SWAM-3-F	3	3.2	7	0.5	0.16	1
SWAM-4-F	4	4.3	9	0.8	0.4	1
SWAM-5-F	5	5.3	10	1	0.58	1
SWAM-6-F	6	6.4	12.5	1.6	1.5	1
SWAM-8-F	8	8.4	17	1.6	2.8	1

● Part number specification

SHNM-M5



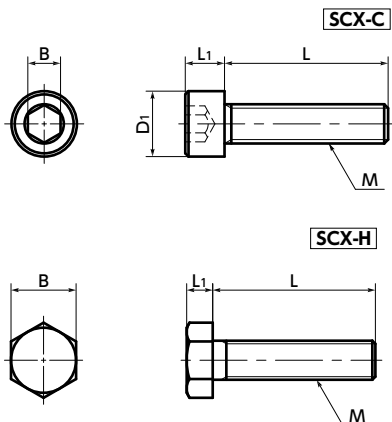
1 Individual Sales ➡ P.809	Cleanroom Wash & Packaging ➡ P.807	Screw Length Adjustment ➡ P.811	Vibration Resistant ➡ P.810	Modification process for captive use ➡ P.806
1 pc. in 1 bag	Cleanroom washed and packed	Not Available	Not Available	Not Available



SCX Ceramic Bolt

Additional Size

WEB Selection Tool WEB CAD Download Heat-resistance Chemical-proof



- Ceramic made from 99.5% high-purity alumina.
- Usable continually at 1500°C.
- Types can be selected by the end symbol of the part number. **3**
- **SCX-C** — Socket Head Cap Screws
- **SCX-H** — Hex Head Screws
- Excellent heat resistance, chemical resistance, and electrical insulation.
- The properties of ceramic screws → P.662
- Application

FPD production equipment, semiconductor devices, printed circuit board etching devices, metallic surface treatment equipment and facilities, and chemical plants

- Material/Finish RoHS2 Compliant

	SCX-C	SCX-H
Main Body	Al ₂ O ₃ (99.5% Alumina)	Al ₂ O ₃ (99.5% Alumina)

SCX-C Hex Socket Head Cap Screws

Part Number 1	M	L 2	D1	L1	B	Mass (g)
SCX-M3-C	M3	5 6 8	5.5	3	2	0.34 - 0.4
SCX-M4-C	M4	5 6 8 10 12	7	4	2.5	0.71 - 0.98
SCX-M5-C	M5	8 10 12 16 20	8.5	5	3	1.2 - 2
SCX-M6-C	M6	10 12 16 20	10	6	4	2.4 - 3.3
SCX-M8-C	M8	12 16 20 25	13	8	5	5.5 - 7.5
SCX-M10-C	M10	12 16 20 25 30	16	10	6	9.5 - 14

Part Number	Qty per pack
SCX-M3-C	1
SCX-M4-C	1
SCX-M5-C	1
SCX-M6-C	1
SCX-M8-C	1
SCX-M10-C	1

⚠ Precautions for Use

- When tightening ceramic screws, use a torque driver or torque wrench and do not exceed the torsional torque. The recommendation torque is 50% of the torsional torque.

M	Torsional Torque (N・m)
M3	0.04
M4	0.05
M5	0.10
M6	0.15
M8	0.30
M10	0.50

- Values in chart are for reference only. They are not guaranteed values.

- Ceramic screws may be damaged by impact. Take care when handling these screws.

- Also, ceramics screws with special specifications such as ventilation holes, dimensions, shapes, and cleanroom washing are available. Please contact us for details.



SCX-H Hex Head Screws

Part Number	M 1	L 2	B	L1	Mass (g)
SCX-M3-H	M3	5 6 8	5.5	2	0.31 - 0.38
SCX-M4-H	M4	5 6 8 10 12	7	2.8	0.66 - 0.94
SCX-M5-H	M5	8 10 12 16 20	8	3.5	1.3 - 2
SCX-M6-H	M6	10 12 16 20	10	4	2.2 - 3.1
SCX-M8-H	M8	12 16 20 25	13	5.3	5.1 - 7.2
SCX-M10-H	M10	12 16 20 25 30	16	6.4	9.9 - 14

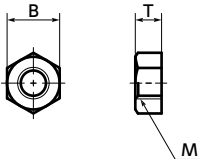
Part Number	Qty per pack
SCX-M3-H	1
SCX-M4-H	1
SCX-M5-H	1
SCX-M6-H	1
SCX-M8-H	1
SCX-M10-H	1

- Part number specification

SCX-M5-16-C

Product Code **1** **2** **3**

1 Individual Sales → P.809	Cleanroom Wash & Packaging → P.807	Screw Length Adjustment → P.811	Vibration Resistant → P.810	Modification process for captive use → P.806
1 unit in 1 bag	Available / Add'l charge	Not Available	Not Available	Not Available



- Ceramic made from 99.5% high-purity alumina.
- Usable continually at 1500°C.
- They have excellent heat resistance, chemical resistance, and electrical insulation.
- The properties of ceramic screws ➔ P.662
- Application
FPD production equipment, semiconductor devices, printed circuit board etching devices, metallic surface treatment equipment and facilities, and chemical plants

Material/Finish		RoHS2 Compliant
	SCX-N	
Main Body	Al ₂ O ₃ (99.5% Alumina)	

SCX-N Hex Nuts						Unit : mm
Part Number	M	B	T	Mass (g)	Qty per pack	
SCX-M3-N	M3	5.5	2.3	0.16	1	
SCX-M4-N	M4	7	3.1	0.38	1	
SCX-M5-N	M5	8	4.6	0.68	1	
SCX-M6-N	M6	10	5	1.2	1	
SCX-M8-N	M8	13	6.7	2.8	1	
SCX-M10-N	M10	16	8.2	5.1	1	

- Part number specification

SCX-M5-N

1

1 Individual Sales ➔ P.809	Cleanroom Wash & Packaging ➔ P.807	Screw Length Adjustment ➔ P.811	Vibration Resistant ➔ P.810	Modification process for captive use ➔ P.806
1 pc. in 1 bag	Available / Add'l charge	Not Available	Not Available	Not Available

The Properties of Ceramic Screws

Physical Properties

	Al ₂ O ₃ (99.5% Alumina)
Specific Gravity	3.9 - 3.939
Flexural Strength (N/mm ²)	360
Volume Resistivity (Ω · m)	> 10 ¹²
Thermal Conductivity (W / (m · K))	32 (20°C)
Linear Expansion Coefficient (K ⁻¹)	7.2 × 10 ⁻⁶ (40 - 400°C)
Vickers Hardness (GPa)	15.5
Maximum Duty Temperature (°C)	1500

• Values in chart are for reference only. They are not guaranteed values.

Chemical Resistance

Chemical Name	Temperature	Hour	Effect
35% Hydrochloric Acid	Boiling	30 minutes	○
70% Nitric Acid	Boiling	30 minutes	○
98% Sulfuric Acid	Boiling	30 minutes	○
90% Phosphoric Acid	Boiling	30 minutes	○
60% Hydrofluoric Acid	20°C	24 hours	△
10% Potassium Hydroxide	80°C	7 Days	○
Potassium Hydroxide	500°C (Boiling)	24 hours	△
Sodium Hydroxide	500°C (Boiling)	24 hours	○
Sodium Carbonate	900°C (Boiling)	24 hours	○
Sodium Sulfate	1000°C (Boiling)	24 hours	○
Potassium Fluoride	90°C (Boiling)	4 hours	×

◎ : No Corrosion △ : Moderate Corrosion
○ : Slight Corrosion × : Heavy Corrosion

⚠ Precautions for Ceramic Screws

- When tightening ceramic screws, use a torque driver or torque wrench and do not exceed the torsional torque. The recommended torque is 50% of the torsional torque.

M	Torsional Torque (N · m)
M3	0.04
M4	0.05
M5	0.10
M6	0.15
M8	0.30
M10	0.50

• Values in chart are for reference only. They are not guaranteed values.

- Heat resistance and chemical resistance change with performance conditions. Always carry out tests under performance conditions similar to actual conditions in advance.
- Ceramic screws may be damaged by impact. Take care when handling these screws.

- Also, ceramics screws with special specifications such as ventilation holes, dimensions, shapes, and cleanroom washing are available. Please contact us for details.





• VESPEL (Non-thermoplastic Polyimide Resin)

	Socket Head Cap Screws	Hex Head Screws	Socket Head Cap Screws	Hex Head Screws
Part Number	SPD-C	SPD-H	SPDC-C	SPDC-H
Shape				
Page	P.739	P.740	P.741	P.742
Materials	VESPEL SP-1	VESPEL SP-1	VESPEL SCP-5000	VESPEL SCP-5000
Characteristics	Heat Resistance • Chemical Resistance • Low Outgas	Heat Resistance • Chemical Resistance • Low Outgas	Heat Resistance • Chemical Resistance • Low Outgas	Heat Resistance • Chemical Resistance • Low Outgas
Size	M3 - M8	M3 - M8	M3 - M8	M3 - M8

• Conductive PEEK

	Socket Head Cap Screws
Part Number	SPEC-C
Shape	
Page	P.743
Materials	Conductive PEEK
Characteristics	Conductivity • Chemical Resistance • Heat Resistance
Size	M4 - M6

• PEEK (Polyetheretherketone)

	Socket Head Cap Screws	Socket Head Cap Screws	Socket Hex Head Screws with Low Profile	Micro Screws		Cross Recessed Pan Head Machine Screws
Part Number	SPE-C	SPE-FT	SPE-LC	SPE-MC	SPE-MF	SPE-P
Shape						
Page	P.744	P.745	P.746	P.747	P.748	P.749
Materials	PEEK	PEEK	PEEK	PEEK	PEEK	PEEK
Characteristics	Chemical Resistance • Heat Resistance	Chemical Resistance • Heat Resistance • Full Thread	Chemical Resistance • Small Space • Heat Resistance	Chemical Resistance • Heat Resistance For precision equipment	Chemical Resistance • Heat Resistance For precision equipment	Chemical Resistance • Heat Resistance
Size	M3 - M8	M3 - M6	M3 - M6	M1.2 - M1.6	M1.2 - M1.6	M1.7 - M8

	Cross Recessed Flat Head Machine Screws	Hex Socket Set Screws	Hex Head Screws	Hex Nuts • Washers	Screw Plugs
Part Number	SPE-F	SPE-T	SPE-H	SPE-N/SPE-W	SPE-R
Shape					
Page	P.750	P.751	P.752	P.753	P.754
Materials	PEEK	PEEK	PEEK	PEEK	PEEK
Characteristics	Chemical Resistance • Heat Resistance	Chemical Resistance • Heat Resistance	Chemical Resistance • Heat Resistance	Chemical Resistance • Heat Resistance	Chemical Resistance • Heat Resistance
Size	M2 - M8	M3 - M8	M4 - M10	M2 - M10	R1/8 - R3/8

• PPS (Polyphenylene Sulfide)

	Socket Head Cap Screws	Socket Hex Head Screws with Low Profile	Cross Recessed Pan Head Machine Screws	Cross Recessed Flat Head Machine Screws	Hex Head Screws	Hex Nuts • Washers
Part Number	SPS-C	SPS-LC	SPS-P	SPS-F	SPS-H	SPS-N/SPS-W
Shape						
Page	P.755	P.756	P.757	P.758	P.759	P.760
Materials	PPS	PPS	PPS	PPS	PPS	PPS
Characteristics	Heat Resistance • Chemical Resistance	Small Space • Chemical Resistance • Heat Resistance	Heat Resistance • Chemical Resistance	Heat Resistance • Chemical Resistance	Heat Resistance • Chemical Resistance	Heat Resistance • Chemical Resistance
Size	M3 - M8	M3 - M6	M2 - M6	M3 - M6	M4 - M12	M2 - M12

• RENY (50% Glass Fiber Reinforced Polyamide MXD6)

	Socket Head Cap Screws	Socket Hex Head Screws with Low Profile	Micro Screws		Cross Recessed Pan Head Machine Screws	Cross Recessed Flat Head Machine Screws
Part Number	SPA-C	SPA-LC	SPA-MC	SPA-MF	SPA-P	SPA-F
Shape						
Page	P.761	P.762	P.763	P.764	P.765	P.766
Materials	RENY	RENY	RENY	RENY	RENY	RENY
Characteristics	High Strength	Small Space • High Strength	High Strength For precision equipment	High Strength For precision equipment	High Strength	High Strength
Size	M3 - M8	M3 - M6	M1.2 - M1.6	M1.2 - M1.6	M1.7 - M6	M2 - M8

	Hex Head Screws	Hex Nuts • Washers
Part Number	SPA-H	SPA-N/SPA-W
Shape		
Page	P.767	P.768
Materials	RENY	RENY
Characteristics	High Strength	High Strength
Size	M5 - M10	M2 - M16

• PTFE (Tetrafluoroethylene: Teflon)

	Hex Head Screws	Hex Nuts • Washers
Part Number	SPT-H	SPT-N/SPT-W
Shape		
Page	P.769	P.770
Materials	PTFE (Teflon)	PTFE (Teflon)
Characteristics	Chemical Resistance • Heat Resistance • Electrical Insulation	Chemical Resistance • Heat Resistance • Electrical Insulation
Size	M3 - M12	M3 - M12

• PVDF (Polyvinylidene Fluoride)

	Hex Head Screws	Socket Head Cap Screws
Part Number	SPV-H	SPV-C
Shape		
Page	P.771	P.772
Materials	PVDF	PVDF
Characteristics	Chemical Resistance	Chemical Resistance
Size	M5 - M8	M5 - M6

• PP (Polypropylene)

	Hex Head Screws	Hex Nuts • Washers
Part Number	SPP-H	SPP-N/SPP-W
Shape		
Page	P.773	P.774
Materials	PP	PP
Characteristics	Chemical Resistance	Chemical Resistance
Size	M4 - M10	M4 - M10

• H-PVC (Hard Polyvinyl Chloride)

	Hex Head Screws	Hex Nuts • Washers
Part Number	SPVC-H	SPVC-N/SPVC-W
Shape		
Page	P.775	P.776
Materials	H-PVC	H-PVC
Characteristics	Chemical Resistance	Chemical Resistance
Size	M4 - M6	M4 - M6

• PC (Polycarbonate)

	Cross Recessed Pan Head Machine Screws	Hex Nuts • Washers
Part Number	SPC-P	SPC-N/SPC-W
Shape		
Page	P.777	P.778
Materials	PC	PC
Characteristics	Shock Resistance • Weather Resistance	Shock Resistance • Weather Resistance
Size	M1.7 - M6	M2 - M6



Properties of Plastic Screws

• The Abbreviations, Names, and Heat Resistance Temperature of Plastics

Abbreviation	Name	Heat Resistance Temperature
VESPEL*	SP-1	288°C
	SCP-5000	350°C
PEEK	Polyetheretherketone	180°C
PTFE	Tetrafluoroethylene	260°C
PPS	Polyphenylene Sulfide	200°C
H-PVC	Hard Polyvinyl Chloride	35°C
RENY*	RENY	105°C
PC	Polycarbonate	115°C
PP	Polypropylene	65°C
PVDF	Polyvinylidene Fluoride	150°C

• The heat resistance temperatures in the chart are for the plastic material. The max. operating temperature of the product changes with performance conditions such as tightening torque.

*VESPEL is a registered trademark of DuPont.

RENY is a registered trademark of Mitsubishi Engineering-Plastics Corporation.

• Selection Criteria for Plastic Screws

Strength	RENY>PPS>VESPEL (SCP-5000)>PEEK>VESPEL (SP-1)>PC>PVDF>PP>H-PVC>PTFE	From tensile strength data
Heat Resistance	VESPEL (SCP-5000)>VESPEL (SP-1)>PTFE>PPS>PEEK>PVDF>PC>RENY>PP>H-PVC	From heat resistance temperature
Chemical Resistance	PTFE>PVDF>H-PVC>PP>PEEK>PPS>PC>VESPEL (SCP-5000)>VESPEL (SP-1)>RENY	From chemical resistance data

• Physical Properties

Properties	Test Method	Unit	VESPEL SP-1	VESPEL SCP-5000	PEEK	PTFE	PPS	RENY	PC	PP	PVDF
Tensile Strength	D638	N/mm ²	86	160	97	24	185	285	62	36	57
Tensile Elongation	D638	%	7.5	7	65	200 - 400	1.9	2.1	110	500	70 - 80
Flexural Strength	D790	N/mm ²	110	247	156	—	255	380	88.2	—	75
Flexural Modulus	D790	GPa	3.1	5.7	4.1	0.56	13.2	17.4	2.3	1.5	1.99
Izot Impact (with Notch)	D256	J/m	42.7	—	94	160	100	110	880	30	160 - 375
Rockwell Hardness	D785	R and M Scales	M90	M100	M99	—	M100	M111	R120	R100	R93 - 116
Deflection Temp. under Load (1.82 MPa)	D648	°C	360	350	152	—	260	234	135	120	80
Flame Class	UL94	—	V-0	V-0	V-0	V-0	V-0	HB	V-2	HB	V-0
Dielectric Constant (10 ⁶ Hz)	D150	—	3.6	3.3	3.3	<2.1	4.6	4.0	2.9	—	10
Dielectric Loss Tangent (10 ⁶ Hz)	D150	—	0.0034	0.001	0.003	<0.0002	0.002	0.009	0.009	—	0.015
Volume Resistivity (×10 ¹⁴)	D257	Ω·m	1 - 10	1	4.9	>100	1.0	1.3	4.0	1.0	0.1 - 1
Dielectric Breakdown Strength	D149	MV/m	22	—	17	19	12	32	16	31	300
Arc Resistance	D495	sec	—	—	23	>300	120	129	120	—	—
Specific Gravity	D792	—	1.43	1.43	1.30	2.14 - 2.2	1.66	1.65	1.20	0.91	1.79
Water Absorption (in 23 °C Water for 24 h)	D570	%	0.240	0.080	0.500	0.010	0.015	0.140	0.150	0.010	0.030
Glass Fiber Content	—	%	—	—	—	—	40	50	—	—	—

• Values in chart are for reference only. They are not guaranteed values.

• Physical Properties (H-PVC)

Properties	Test Method (JIS)	Unit	H-PVC
Tensile Strength	JISK7162	Test Speed : 10mm/min	N/mm ² 38.8
Tensile Elongation	JISK7162	Test Speed : 10mm/min	% 188
Hardness	JISK7215	10 seconds later (2 mm thickness 3 sheets overlaid)	Hs 97
Specific Gravity	JISK7112	Method A	— 1.32

• Values in chart are for reference only. They are not guaranteed values.



Precautions for Plastic Screws

- While these plastics screws comply with JIS and ISO standards, there are some areas irrelevant to these screws as their manufacturing methods differ from that of metal screws.
- The values in the mechanical properties chart are reference values.
- Use a torque driver or torque wrench when tightening.
- Always carry out tests under performance conditions similar to actual conditions in advance.
- The color of machine screws, bolts, nuts, and washers may differ by lot.

• Chemical Resistance

Chemical Name	VESPEL SP-1	VESPEL SCP-5000	PEEK	PTFE	PPS	H-PVC	RENY	PC	PP	PVDF
10% Hydrochloric Acid	O	O	O	O	O	O	×	O	O	O
10% Sulfuric Acid	O	O	O	O	O	O	×	O	O	O
50% Sulfuric Acid	×	△	×	O	×	O	×	△	—	O
10% Nitric Acid	△	△	O	O	O	O	×	O	O	O
50% Nitric Acid	×	×	×	O	×	△	×	△	—	O
10% Hydrofluoric Acid	△	△	—	O	△	△	×	O	O	O
50% Hydrofluoric Acid	×	×	×	O	×	△	×	△	△	△
Phosphoric Acid	—	—	O	O	△	O	×	O	O	O
Formic Acid	△	△	△	O	O	△	×	O	O	O
Phosphoric Acid	O	O	O	O	O	O	×	O	O	O
Citric Acid	O	O	O	O	O	O	△	O	O	O
Chromic Acid	—	—	O	O	△	O	×	O	O	O
Boric Acid	O	O	O	O	O	O	△	O	O	O
Methyl Alcohol	△	△	O	O	O	O	—	△	—	O
Glycol	O	O	O	O	O	—	—	O	—	—
Ammonia	×	△	O	O	O	O	O	×	O	O
10% Sodium Hydroxide	×	△	O	O	O	O	O	—	O	O
10% Potassium Hydroxide	×	△	O	O	△	O	O	×	O	O
Calcium Hydroxide	—	—	O	O	△	O	×	O	O	O
Water	O	O	O	O	O	O	△	O	O	O
Hydrogen Sulfide (Gas)	—	—	O	O	O	—	O	O	O	O
Sulfur Dioxide	—	—	O	O	△	—	O	O	O	—
Ammonium Nitrate	—	—	O	O	O	—	O	O	O	O
Sodium Nitrate	—	—	O	O	O	—	O	×	O	O
Calcium Carbonate	—	—	O	O	O	—	O	×	O	O
Calcium Chloride	—	—	O	O	O	O	O	O	O	O
Magnesium Chloride	—	—	O	O	O	O	O	O	O	O
Magnesium Sulfate	—	—	O	O	O	—	O	O	O	O
Zinc Sulfate	—	—	O	O	O	—	O	O	O	O
Hydrogen peroxide	△	△	O	O	△	O	△	O	O	O

OUsable

△Usable under certain conditions

×Non-usable

• A test piece was used to acquire the test data at room temperature (23°C). Chemical resistance changes with performance conditions. Always carry out tests under performance conditions similar to actual conditions in advance.

• Torsional Torque of Plastic Screws (N·m)

	VESPEL SP-1	VESPEL SCP-5000	PEEK	PTFE	PPS	H-PVC	RENY	PC	PP	PVDF
M1.7	—	—	0.02	—	—	—	0.03	0.02	—	—
M2	—	—	0.06	—	0.08	—	0.1	0.05	—	—
M2.6	—	—	0.16	—	—	—	0.24	—	—	—
M3	0.12	0.21	0.3	0.02	0.36	—	0.39	0.22	—	—
M4	0.27	0.47	0.64	0.03	0.71	0.18	0.79	0.54	0.23	—
M5	0.54	0.98	1.28	0.08	1.42	0.41	1.77	1.03	0.51	0.64
M6	0.95	1.65	2.26	0.14	2.11	0.65	2.94	1.37	0.8	0.88
M8	2.26	4.04	5.98	0.24	5.29	—	7.85	—	2.2	2.65
M10	—	—	—	0.69	11.8	—	12.75	—	3.4	—
M12	—	—	—	1.54	20.6	—	—	—	—	—

• Values in chart are for reference only. They are not guaranteed values. The recommended torque is 50% of the value in the chart. The value differs depending on the head shape of the screw. See the product page for details.



DuPont™ VESPEL Screws for Extreme Heat Resistance and Cleanliness

VESPEL is non-thermoplastic super-engineering plastic formed from powder of wholly aromatic polyimide resin developed by DuPont using advanced technology.

Among super-engineering plastics, it has top-level heat resistance. It is used in wide range of applications, starting with machine and electrical machine parts.



Characteristics

• Extreme Heat Resistance

Continuous Max. Operating Temperature:
288 °C (SP-1), 350 °C (SCP-5000)
VESPEL is formed from a polyimide that has excellent heat resistance. VESPEL can be used continually under high temperatures without reaching a softening point, such as its melting point or glass transition point.

• Low outgas

Outgas quantity is extremely low under high temperatures. No bubbles blend in thanks to the powder compression molding method.

VESPEL Screw Types

• Standard grade SP-1 and high grade SCP-5000 screws are available as standard.

SP-1

This material has excellent heat resistance and electrical and thermal insulation properties. It is used widely in industrial fields. Due to its excellent plasma resistance and low outgas characteristics, it is widely used for peripheral parts for FPD production equipment and semiconductor devices.



[SPDC-C] VESPEL Socket Head Cap Screws
(Grade: SP-1) → P.739



[SPDC-H] High-grade VESPEL Hex Head Screws
(Grade: SP-1) → P.740

• Chemical Resistance

VESPEL is resistant to various chemicals.

• Plasma Resistance

• Radiation Hardness

• Abrasion Resistance

SCP-5000

This material has better strength characteristics, heat resistance, chemical resistance, and dimensional stability than SP-1. In addition to FPD production equipment and semiconductor devices, this material is also used in the fields of air and spacecraft.



[SPDC-C] High-grade VESPEL Socket Head Cap Screws
(Grade: SCP-5000) → P.741



[SPDC-H] High-grade VESPEL Hex Head Screws
(Grade: SCP-5000) → P.742

Properties of VESPEL by DuPont™

• Physical Properties

Properties	Test Method	Unit	VESPEL SP-1	VESPEL SCP-5000
Tensile Strength	D1708	N/mm ²	86	160
Tensile Elongation	D1708	%	7.5	7
Flexural Strength	D790	N/mm ²	110	247
Flexural Modulus	D790	GPa	3.1	5.7
Izot Impact (with Notch)	D256	J/m	42.7	—
Rockwell Hardness	D785	R and M Scales	M90	M100
Deflection Temp. under Load (1.82 MPa)	D648	°C	360	350
Flame Class	UL94	—	V-0	V-0
Dielectric Constant (10 ⁶ Hz)	D150	—	3.6	3.3
Dielectric Loss Tangent (10 ⁶ Hz)	D150	—	0.0034	0.001
Volume Resistivity (× 10 ¹⁴)	D257	Ω·m	1 - 10	1
Dielectric Breakdown Strength	D149	MV/m	22	—
Specific Gravity	D792	—	1.43	1.43
Water Absorption (in 23 °C Water for 24 h)	D570	%	0.24	0.08
Glass Fiber Content	—	%	—	—

• Values in chart are for reference only. They are not guaranteed values.

• Chemical Resistance

Chemical Name	VESPEL SP-1	VESPEL SCP-5000
10% Hydrochloric Acid	○	○
10% Sulfuric Acid	○	○
50% Sulfuric Acid	×	△
10% Nitric Acid	△	△
50% Nitric Acid	×	×
10% Hydrofluoric Acid	△	△
50% Hydrofluoric Acid	×	×
Formic Acid	△	△
Phosphoric Acid	○	○
Citric Acid	○	○
Boric Acid	○	○
Methyl Alcohol	△	△
Glycol	○	○
Ammonia	×	△
10% Sodium Hydroxide	×	△
10% Potassium Hydroxide	×	△
Water	○	○
Hydrogen Peroxide	△	△

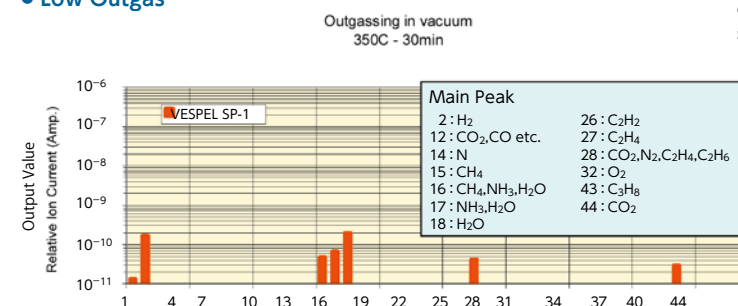
○ Usable

△ Usable under certain conditions

× Non-usable

• A test piece was used to acquire the test data at room temperature (23 °C). Chemical resistance changes with performance conditions. Always carry out tests under performance conditions similar to actual conditions in advance.

• Low Outgas



Instrument : Quadrupole Mass Spectrometer (QMS)

Heating temperature : 350 °C

Heating time : 30 minutes

• Values in graph are for reference only. They are not guaranteed values.

Also, screws with special sizes including nominal and length are available.

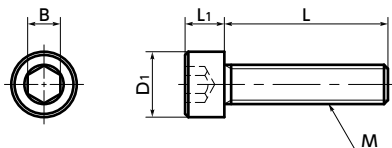


VESPEL is a registered trademark of DuPont.

SPD-C Plastic Screw - Socket Head Cap Screws - VESPEL (Grade : SP - 1)

WEB Selection Tool WEB CAD Download Cleanroom wash & packaging Heat-resistance Chemical-proof

e-nedzi.com



● Application

FPD production equipment, semiconductor devices, printed circuit board etching devices, metallic surface treatment equipment and facilities, chemical plants, transformers, electrical and electronic equipment, hot water pumps, and chemical pumps

● Material/Finish



	SPD-C
Main body	VESPEL SP-1 (Non-thermoplastic Polyimide Resin)
Heat Resistance Temperature*1	288°C

● VESPEL is a registered trademark of DuPont.

*1 : This is the value for the plastic material. The maximum operating temperature of the product changes with performance conditions such as tightening torque.

- VESPEL SP-1 is a non-thermoplastic super-engineering plastic with excellent physical and chemical properties.
- Properties of VESPEL SP-1 ➡ P.738
- It does not reach a softening point, such as its melting point or glass transition point, even under high temperatures and can be used continually at 288°C.
- The screws have excellent chemical resistance, plasma resistance, radiation hardness, and abrasion resistance.
- Thanks to the powder compression molding method, no bubbles blend in and outgas quantity is extremely low. ➡ P.738
- Cleanroom wash and cleanroom packing are completed. ➡ P.807

Unit : mm

Part Number	M	1	L	2						D1	L1	B	Torsional*1 Torque (N·m)	Mass (g)
SPD-M3-C	M3	6	8	10	12	16				5.5	3	2.5	0.12	0.13 - 0.21
SPD-M4-C	M4	6	8	10	12	16	20	25		7	4	3	0.27	0.28 - 0.58
SPD-M5-C	M5		8	10	12	16	20	25	30	8.5	5	4	0.54	0.45 - 1
SPD-M6-C	M6			10	12	16	20	25	30	10	6	5	0.95	0.86 - 2
SPD-M8-C	M8			10	12	16	20	25	30	13	8	6	2.26	1.9 - 3.8

*1 : Values in chart are for reference only. They are not guaranteed values. The recommendation torque is 50% of the torsional torque.

Part Number	Qty per pack
SPD-M3-C	1
SPD-M4-C	1
SPD-M5-C	1
SPD-M6-C	1
SPD-M8-C	1

● Related Products

[SPDC] VESPEL SCP-5000 Hex socket head screw, which has a continuous duty temperature of 350 °C is available. ➡ P.741



● Part number specification

SPD - M5 - 20 - C

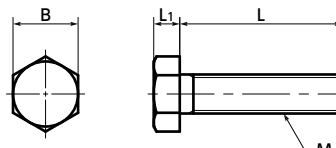
Product Code 1 2 Product Code

1 Individual Sales ➡ P.809	Cleanroom Wash & Packaging ➡ P.807	Screw Length Adjustment ➡ P.811	Vibration Resistant ➡ P.810	Modification process for captive use ➡ P.806
1 unit in 1 bag	Cleanroom washed and packed	Available / Add'l charge	Not Available	Please feel free to contact us

SPD-H Plastic Screw - Hex Head Screws - VESPEL (Grade : SP - 1)

WEB Selection Tool WEB CAD Download Cleanroom wash & packaging Heat-resistance Chemical-proof

e-nedzi.com



● Application

FPD production equipment, semiconductor devices, printed circuit board etching devices, metallic surface treatment equipment and facilities, chemical plants, transformers, electrical and electronic equipment, hot water pumps, and chemical pumps

● Material/Finish



	SPD-H
Main Body	VESPEL SP-1 (Non-thermoplastic Polyimide Resin)
Heat Resistance Temperature*1	288°C

● VESPEL is a registered trademark of DuPont.

*1 : This is the value for the plastic material. The maximum operating temperature of the product changes with performance conditions such as tightening torque.

- VESPEL SP-1 is a non-thermoplastic super-engineering plastic with excellent physical and chemical properties.
- Properties of VESPEL SP-1 ➡ P.738
- It does not reach a softening point, such as its melting point or glass transition point, even under high temperatures and can be used continually at 288°C.
- The screws have excellent chemical resistance, plasma resistance, radiation hardness, and abrasion resistance.
- Thanks to the powder compression molding method, no bubbles blend in and outgas quantity is extremely low. ➡ P.738
- Cleanroom wash and cleanroom packing are completed. ➡ P.807

Unit : mm

Part Number	M	1	L	2						B	L1	Torsional*1 Torque (N·m)	Mass (g)
SPD-M3-H	M3	6	8	10	12	16				5.5	2	0.12	0.12 - 0.21
SPD-M4-H	M4	6	8	10	12	16	20	25		7	2.8	0.27	0.25 - 0.53
SPD-M5-H	M5		8	10	12	16	20	25	30	8	3.5	0.54	0.46 - 0.97
SPD-M6-H	M6			10	12	16	20	25	30	10	4	0.95	0.82 - 1.8
SPD-M8-H	M8			10	12	16	20	25	30	13	5.3	2.26	1.7 - 3.5

*1 : Values in chart are for reference only. They are not guaranteed values. The recommendation torque is 50% of the torsional torque.

Part Number	Qty per pack
SPD-M3-H	1
SPD-M4-H	1
SPD-M5-H	1
SPD-M6-H	1
SPD-M8-H	1

● Related Products

[SPDC] VESPEL SCP-5000 Hex head screw, which has a continuous duty temperature of 350 °C is available. ➡ P.742



● Part number specification

SPD - M5 - 20 - H

Product Code 1 2 Product Code

1 Individual Sales ➡ P.809	Cleanroom Wash & Packaging ➡ P.807	Screw Length Adjustment ➡ P.811	Vibration Resistant ➡ P.810	Modification process for captive use ➡ P.806
1 unit in 1 bag	Cleanroom washed and packed	Available / Add'l charge	Not Available	Please feel free to contact us

e-nedzi.com®

SPDC-C Plastic Screw - Socket Head Cap Screws - VESPEL (Grade : SCP - 5000)

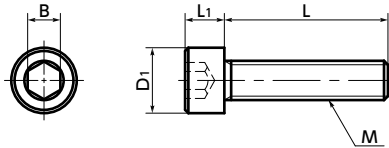
WEB Selection Tool

WEB CAD Download

Cleanroom wash & packaging

Heat-resistance

Chemical-proof



● Application

FPD production equipment, semiconductor devices, printed circuit board etching devices, metallic surface treatment equipment and facilities, chemical plants, transformers, electrical and electronic equipment, hot water pumps, and chemical pumps

● Material/Finish



	SPDC-C
Main body	VESPEL SCP-5000 (Non-thermoplastic Polyimide Resin)
Heat Resistance Temperature*1	350°C

● VESPEL is a registered trademark of DuPont.

*1 : This is the value for the plastic material. The maximum operating temperature of the product changes with performance conditions such as tightening torque.

- VESPEL SP-1 is a non-thermoplastic super-engineering plastic with excellent physical and chemical properties.
- Properties of VESPEL SP-1 ➡ P.738
- This material maintains high strength and flexibility even under high temperatures and does not soften up to 350°C. Due to its stable and long-term heat resistance, it has a continuous duty temperature of 350°C.
- The screws have excellent chemical resistance, plasma resistance, radiation hardness, and abrasion resistance.
- Thanks to the powder compression molding method, no bubbles blend in and outgas quantity is extremely low. ➡ P.738
- Cleanroom wash and cleanroom packing are completed. ➡ P.807

Unit : mm

Part Number	M	1	L	2							D1	L1	B	Torsional*1 Torque (N・m)	Mass (g)
SPDC-M3-C	M3	6	8	10	12	16					5.5	3	2.5	0.21	0.13 - 0.21
SPDC-M4-C	M4	6	8	10	12	16	20	25			7	4	3	0.47	0.28 - 0.58
SPDC-M5-C	M5		8	10	12	16	20	25	30		8.5	5	4	0.98	0.45 - 1
SPDC-M6-C	M6			10	12	16	20	25	30	40	10	6	5	1.65	0.86 - 2
SPDC-M8-C	M8			10	12	16	20	25	30	40	13	8	6	4.04	1.9 - 3.8

*1 : Values in chart are for reference only. They are not guaranteed values. The recommendation torque is 50% of the torsional torque.

Part Number	Qty per pack
SPDC-M3-C	1
SPDC-M4-C	1
SPDC-M5-C	1
SPDC-M6-C	1
SPDC-M8-C	1

● Related Products

SPD-C VESPEL (Grade : SP-1)
Socket Head Cap Screw, which has a heat resistance temperature of 280 deg C is available.
➡ P.739



● Part number specification

SPDC - M5 - 20 - C

Product Code 1 2 Product Code

1 Individual Sales ➡ P.809	Cleanroom Wash & Packaging ➡ P.807	Screw Length Adjustment ➡ P.811	Vibration Resistant ➡ P.810	Modification process for captive use ➡ P.806
1 unit in 1 bag	Cleanroom washed and packed	Available / Add'l charge	Not Available	Please feel free to contact us

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SPDC-H Plastic Screw - Hex Head Screws - VESPEL (Grade : SCP - 5000)

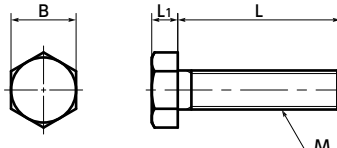
WEB Selection Tool

WEB CAD Download

Cleanroom wash & packaging

Heat-resistance

Chemical-proof



● Application

FPD production equipment, semiconductor devices, printed circuit board etching devices, metallic surface treatment equipment and facilities, chemical plants, transformers, electrical and electronic equipment, hot water pumps, and chemical pumps

● Material/Finish



	SPDC-H
Main body	VESPEL SCP-5000 (Non-thermoplastic Polyimide Resin)
Heat Resistance Temperature*1	350°C

● VESPEL is a registered trademark of DuPont.

*1 : This is the value for the plastic material. The maximum operating temperature of the product changes with performance conditions such as tightening torque.

- VESPEL SP-1 is a non-thermoplastic super-engineering plastic with excellent physical and chemical properties.
- Properties of VESPEL SP-1 ➡ P.738
- This material maintains high strength and flexibility even under high temperatures and does not soften up to 350°C. Due to its stable and long-term heat resistance, it has a continuous duty temperature of 350°C.
- The screws have excellent chemical resistance, plasma resistance, radiation hardness, and abrasion resistance.
- Thanks to the powder compression molding method, no bubbles blend in and outgas quantity is extremely low. ➡ P.738
- Cleanroom wash and cleanroom packing are completed. ➡ P.807

Unit : mm

Part Number	M	1	L	2							B	L1	Torsional*1 Torque (N・m)	Mass (g)
SPDC-M3-H	M3	6	8	10	12	16					5.5	2	0.21	0.12 - 0.21
SPDC-M4-H	M4	6	8	10	12	16	20	25			7	2.8	0.47	0.25 - 0.53
SPDC-M5-H	M5		8	10	12	16	20	25	30		8	3.5	0.98	0.46 - 0.97
SPDC-M6-H	M6			10	12	16	20	25	30	40	10	4	1.65	0.82 - 1.8
SPDC-M8-H	M8			10	12	16	20	25	30	40	13	5.3	4.04	1.7 - 3.5

*1 : Values in chart are for reference only. They are not guaranteed values. The recommendation torque is 50% of the torsional torque.

Part Number	Qty per pack
SPDC-M3-H	1
SPDC-M4-H	1
SPDC-M5-H	1
SPDC-M6-H	1
SPDC-M8-H	1

● Related Products

SPD-H VESPEL (Grade : SP-1)
Hex Head Screw, which has a heat resistance temperature of 280 deg C is available.
➡ P.740



● Part number specification

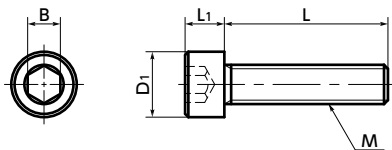
SPDC - M5 - 20 - H

Product Code 1 2 Product Code

1 Individual Sales ➡ P.809	Cleanroom Wash & Packaging ➡ P.807	Screw Length Adjustment ➡ P.811	Vibration Resistant ➡ P.810	Modification process for captive use ➡ P.806
1 unit in 1 bag	Cleanroom washed and packed	Available / Add'l charge	Not Available	Please feel free to contact us

SPS-C Plastic Screw - Hex Socket Head Cap Screws - PPS

WEB Selection Tool CAD Download Heat-resistance Chemical-proof



● Material/Finish

RoHS2 Compliant

	SPS-C
Main body	PPS (Polyphenylene Sulfide) /Bright Light Brown Glass Fiber 40%
Heat Resistance Temperature*1	200°C

*1: This is the value for the plastic material. The maximum operating temperature of the product changes with performance conditions such as tightening torque.

- PPS has excellent heat resistance and chemical resistance and continuous duty temperature of 200°C. Under 200°C, no oils, fats, or organic solvents dissolve PPS.
- It has high strength, high rigidity, and high heat resistance strength.
- It has high incombustibility that meets V-0 of UL 94.
- The properties and precautions of plastic screws
➔ P.735

● Application

FPD production equipment, semiconductor devices, printed circuit board etching devices, metallic surface treatment equipment and facilities, chemical plants, transformers, electrical and electronic equipment, hot water pumps, and chemical pumps

Unit : mm

Part Number	M	L	D1	L1	B	Tension*1 Rupture Load (N)	Torsional*1 Torque (N·m)	Mass (g)
SPS-M3-C	M3	6 8 10 12 15 20	5.5	3	2.5	570	0.36	0.15 - 0.29
SPS-M4-C	M4	6 8 10 12 15 20 25 30	7	4	3	980	0.71	0.32 - 0.56
SPS-M5-C	M5	8 10 12 15 20 25 30 40	8.5	5	4	1570	1.42	0.52 - 1.2
SPS-M6-C	M6	10 12 15 20 25 30 40	10	6	5	2250	2.11	1 - 2.3
SPS-M8-C	M8	10 12 15 20 25 30 40	13	8	6	3720	5.29	2.2 - 4.4

*1: Values in chart are for reference only. They are not guaranteed values. The recommendation torque is 50% of the torsional torque.

Part Number	Qty per pack*1
SPS-M3-C	20
SPS-M4-C	20
SPS-M5-C	10
SPS-M6-C	10
SPS-M8-C	5

*1: Also sold separately from 1 piece up. ➔ P.809

● Part number specification

SPS-M5-20-C

Product Code 1 2 Product Code

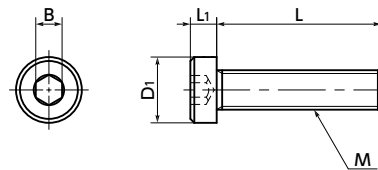
Order in number of packs.

Also sold separately from 1 piece up. ➔ P.809

1 Individual Sales ➔ P.809	Cleanroom Wash & Packaging ➔ P.807	Screw Length Adjustment ➔ P.811	Vibration Resistant ➔ P.810	Modification process for captive use ➔ P.806
Available / Add'l charge	Available / Add'l charge	Available / Add'l charge	Not Available	Please feel free to contact us

SPS-LC Plastic screw - Hex Socket Low Head Bolt - PPS

WEB Selection Tool CAD Download Heat-resistance Chemical-proof



● Material/Finish

RoHS2 Compliant

	SPS-LC
Main body	PPS (Poly Phenylene Sulfide) (Bright Light Brown) (Glass fiber 40%)
Heat resistance temperature*1	200°C

*1: A value of plastic materials. The allowable operating temperature of the product varies depending on use conditions such as tightening torque.

- Hex socket head cap screw with low head.
- For space-saving of equipment/device and applications with a limited top space.
- PPS is excellent in heat resistance and chemical resistance and continuously used at 200°C. No fat or organic solvent cannot dissolve PPS at 200°C or below.
- High strength, high rigidity and high temperature strength is retained.
- It is highly frame-resistant satisfying V-0 of the UL standard 94.
- Plastic screw properties and precautions for use
➔ P.735

● Application

FPD production device / Semiconductor manufacturing device / Print board etching equipment / Metal surface treatment facility / Chemical plant / Transformer / Electric and electronic device / Hydrothermal pump / Chemical pump

Unit : mm

Part Number	M	L	D1	L1	B	Tension*1 Rupture Load (N)	Torsional*1 Torque (N·m)	Mass (g)
SPS-M3-LC	M3	6 8 10 12 16 20	5.5	2	2	492	0.25	0.11 - 0.25
SPS-M4-LC	M4	6 8 10 12 16 20 25	7	2.8	2.5	789	0.46	0.24 - 0.59
SPS-M5-LC	M5	8 10 12 16 20 25 30	8.5	3.5	3	1190	1.04	0.38 - 1.0
SPS-M6-LC	M6	10 12 16 20 25 30 40	10	4	4	1811	1.70	0.74 - 2.1

*1: Values in chart are for reference only. They are not guaranteed values. The recommendation torque is 50% of the torsional torque.

Part Number	Qty per pack*1
SPS-M3-LC	10
SPS-M4-LC	10
SPS-M5-LC	10
SPS-M6-LC	5

*1: Also sold separately from 1 piece up. ➔ P.809

● Part number specification

SPS-M5-30-LC

Product Code 1 2 Product Code

Order in number of packs.

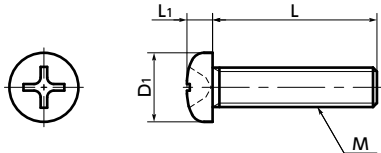
Also sold separately from 1 piece up. ➔ P.809

1 Individual Sales ➔ P.809	Cleanroom Wash & Packaging ➔ P.807	Screw Length Adjustment ➔ P.811	Vibration Resistant ➔ P.810	Modification process for captive use ➔ P.806
Available / Add'l charge	Available / Add'l charge	Available / Add'l charge	Not Available	Please feel free to contact us

SPS-P Plastic Screw - Cross Recessed Pan Head Machine Screws - PPS

WEB Selection Tool WEB CAD Download Heat-resistance Chemical-proof

e-nedzi.com



Material/Finish

RoHS2 Compliant

	SPS-P
Main body	PPS (Polyphenylene Sulfide) /Bright Light Brown Glass Fiber 40%
Heat Resistance Temperature*1	200°C

*1 : This is the value for the plastic material. The maximum operating temperature of the product changes with performance conditions such as tightening torque.

- PPS has excellent heat resistance and chemical resistance and continuous duty temperature of 200°C. Under 200°C, no oils, fats, or organic solvents dissolve PPS.
- It has high strength, high rigidity, and high heat resistance strength.
- It has high incombustibility that meets V-0 of UL 94.
- The properties and precautions of plastic screws → P.735

Application

FPD production equipment, semiconductor devices, printed circuit board etching devices, metallic surface treatment equipment and facilities, chemical plants, transformers, electrical and electronic equipment, hot water pumps, and chemical pumps

Unit : mm

Part Number	M 	L 										D1	L1	Tension*1 Rupture Load (N)	Torsional*1 Torque (N • m)	Mass (g)
SPS-M2-P	M2	4	5	6	8	10	12					3.5	1.3	236	0.08	0.03 - 0.062
SPS-M3-P	M3		5	6	8	10	12	15	20	25	30	5.5	2	570	0.36	0.1 - 0.32
SPS-M4-P	M4			6	8	10	12	15	20	25	30	7	2.6	980	0.71	0.22 - 0.61
SPS-M5-P	M5				8	10	12	15	20	25	30	9	3.3	1570	1.42	0.47 - 1
SPS-M6-P	M6					10	12	15	20			10.5	3.9	2250	2.11	0.83 - 1.2

*1 : Values in chart are for reference only. They are not guaranteed values. The recommendation torque is 50% of the torsional torque.

Part Number	Qty per pack*1
SPS-M2-P	20
SPS-M3-P	20
SPS-M4-P	20
SPS-M5-P	10
SPS-M6-P	10

*1 : Also sold separately from 1 piece up. → P.809

Part number specification

SPS - M5 - 20 - P

Product Code 1 2 Product Code

Order in number of packs.

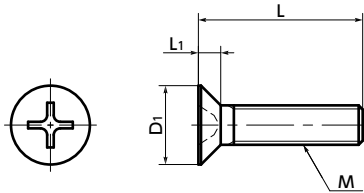
Also sold separately from 1 piece up. → P.809

1 Individual Sales → P.809	Cleanroom Wash & Packaging → P.807	Screw Length Adjustment → P.811	Vibration Resistant → P.810	Modification process for captive use → P.806
Available / Add'l charge	Available / Add'l charge	Available / Add'l charge	Not Available	Not Available

SPS-F Plastic Screw PPS / Phillips Cross Recessed Flat Head Machine Screws

WEB Selection Tool WEB CAD Download Heat-resistance Chemical-proof

e-nedzi.com



Material/Finish

RoHS2 Compliant

	SPS-F
Main body	PPS (Polyphenylene Sulfide) /Bright Light Brown Glass Fiber 40%
Heat Resistance Temperature*1	200°C

*1 : This is the value for the plastic material. The maximum operating temperature of the product changes with performance conditions such as tightening torque.

- PPS has excellent heat resistance and chemical resistance and continuous duty temperature of 200°C. Under 200°C, no oils, fats, or organic solvents dissolve PPS.
- It has high strength, high rigidity, and high heat resistance strength.
- It has high incombustibility that meets V-0 of UL 94.
- The properties and precautions of plastic screws → P.735

Application

FPD production equipment, semiconductor devices, printed circuit board etching devices, metallic surface treatment equipment and facilities, chemical plants, transformers, electrical and electronic equipment, hot water pumps, and chemical pumps

Unit : mm

Part Number	M 	L 						D ₁	L ₁	Tension* ¹ Rupture Load (N)	Torsional* ¹ Torque (N·m)	Mass (g)
SPS-M3-F	M3	6	8	10	12	15		6	1.75	570	0.36	0.11 - 0.19
SPS-M4-F	M4		8	10	12	15		8	2.3	980	0.71	0.25 - 0.37
SPS-M5-F	M5			10	12	15	20	10	2.8	1570	1.42	0.52 - 0.77
SPS-M6-F	M6			10	12	15	20	12	3.4	2250	2.11	0.83 - 1.2

*1 : Values in chart are for reference only. They are not guaranteed values. The recommendation torque is 50% of the torsional torque.

Part Number	Qty per pack*1
SPS-M3-F	20
SPS-M4-F	20
SPS-M5-F	10
SPS-M6-F	10

*1 : Also sold separately from 1 piece up. → P.809

Part number specification

SPS - M5 - 20 - F

Product Code 1 2 Product Code

Order in number of packs.

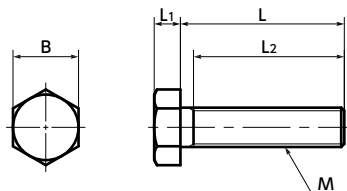
Also sold separately from 1 piece up. → P.809

1 Individual Sales → P.809	Cleanroom Wash & Packaging → P.807	Screw Length Adjustment → P.811	Vibration Resistant → P.810	Modification process for captive use → P.806
Available / Add'l charge	Available / Add'l charge	Available / Add'l charge	Not Available	Not Available

SPS-H Plastic Screw - Hex Head Screws - PPS

WEB Selection Tool CAD Download Heat-resistance Chemical-proof

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● Material/Finish

RoHS2 Compliant

	SPS-H
Main body	PPS (Polyphenylene Sulfide) / Bright Light Brown Glass Fiber 40%
Heat Resistance Temperature*1	200°C

*1: This is the value for the plastic material. The maximum operating temperature of the product changes with performance conditions such as tightening torque.



- PPS has excellent heat resistance and chemical resistance and continuous duty temperature of 200°C. Under 200°C, no oils, fats, or organic solvents dissolve PPS.
- It has high strength, high rigidity, and high heat resistance strength.
- It has high incombustibility that meets V-0 of UL 94.
- The properties and precautions of plastic screws
➔ P.735

● Application

FPD production equipment, semiconductor devices, printed circuit board etching devices, metallic surface treatment equipment and facilities, chemical plants, transformers, electrical and electronic equipment, hot water pumps, and chemical pumps

Unit : mm

Part Number	M	L	B	L1	L2*1	Tension*2 Rupture Load (N)	Torsional*2 Torque (N·m)	Mass (g)
SPS-M4-H	M4	8 10 12 15 20 25 30 40 50	7	2.8	Full Thread	980	0.71	0.33 - 0.62
SPS-M5-H	M5	8 10 12 15 20 25 30 40 50	8	3.5	Full Thread	1570	1.42	0.54 - 1.1
SPS-M6-H	M6	10 12 15 20 25 30 40 50	10	4	Full Thread	2250	2.11	0.96 - 2.1
SPS-M8-H	M8	15 20 25 30 40 50	13	5.5	27(L=50)	3720	5.29	2.4 - 4.8
SPS-M10-H	M10	20 25 30 40 50	17	7	27(L=50)	5890	11.8	5.1 - 8.3
SPS-M12-H	M12	20 25 30 40 50	19	8	Full Thread	7850	20.6	7.3 - 8

*1: If the "L" value is other than the value in parentheses, the screw is full thread.

*2: Values in chart are for reference only. They are not guaranteed values. The recommendation torque is 50% of the torsional torque.

Part Number	Qty per pack*1
SPS-M4-H	10
SPS-M5-H	10
SPS-M6-H	10
SPS-M8-H	5
SPS-M10-H	1
SPS-M12-H	1

*1: Also sold separately from 1 piece up. ➔ P.809

● Part number specification

SPS-M5-20-H

Product Code 1 2 Product Code

Order in number of packs.

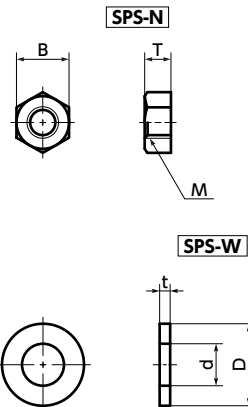
Also sold separately from 1 piece up. ➔ P.809

1 Individual Sales ➔ P.809	Cleanroom Wash & Packaging ➔ P.807	Screw Length Adjustment ➔ P.811	Vibration Resistant ➔ P.810	Modification process for captive use ➔ P.806
Available / Add'l charge	Available / Add'l charge	Available / Add'l charge	Not Available	Please feel free to contact us

SPS-N/SPS-W Plastic Screw - Hex Nuts / Washers - PPS

WEB Selection Tool CAD Download Heat-resistance Chemical-proof

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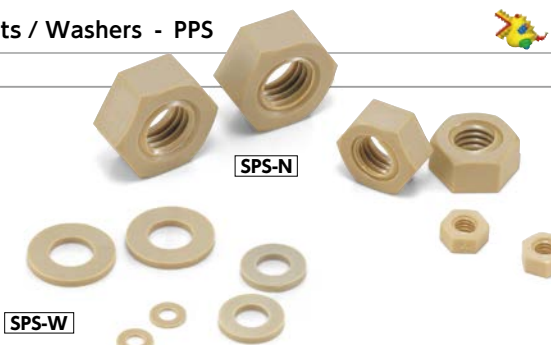


● Material/Finish

RoHS2 Compliant

	SPS-N / SPS-W
Main body	PPS (Polyphenylene Sulfide) / Bright Light Brown Glass Fiber 40%
Heat Resistance Temperature*1	200°C

*1: This is the value for the plastic material. The maximum operating temperature of the product changes with performance conditions such as tightening torque.



- PPS has excellent heat resistance and chemical resistance and continuous duty temperature of 200°C. Under 200°C, no oils, fats, or organic solvents dissolve PPS.
- It has high strength, high rigidity, and high heat resistance strength.
- It has high incombustibility that meets V-0 of UL 94.
- The properties and precautions of plastic screws
➔ P.735

● Application

FPD production equipment, semiconductor devices, printed circuit board etching devices, metallic surface treatment equipment and facilities, chemical plants, transformers, electrical and electronic equipment, hot water pumps, and chemical pumps

SPS-N Hex Nuts

Unit : mm

Part Number	M	B	T	Mass (g)	Qty per pack*1
SPS-M2-N	M2	4	1.6	0.026	20
SPS-M2.6-N	M2.6	5	2	0.05	20
SPS-M3-N	M3	5.5	2.4	0.07	20
SPS-M4-N	M4	7	3.2	0.17	20
SPS-M5-N	M5	8	4	0.25	20
SPS-M6-N	M6	10	5	0.52	10
SPS-M8-N	M8	13	6.5	1.2	10
SPS-M10-N	M10	17	8	2.4	5
SPS-M12-N	M12	19	10	3.5	5

*1: Also sold separately from 1 piece up. ➔ P.809

SPS-W Washers

Unit : mm

Part Number	d	D	t	Nominal	Mass (g)	Qty per pack*1
SPS-3-W	3.2	7	0.5	3	0.025	20
SPS-4-W	4.3	9	0.8	4	0.065	20
SPS-5-W	5.3	10	1	5	0.094	20
SPS-6-W	6.4	12.5	1.6	6	0.24	10
SPS-8-W	8.4	17	1.6	8	0.46	10
SPS-10-W	10.5	21	2	10	0.86	5
SPS-12-W	13	24	2.5	12	1.3	5

*1: Also sold separately from 1 piece up. ➔ P.809

● Part number specification

SPS-M5-N

Product Code 1

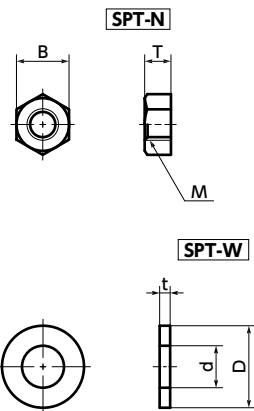
Order in number of packs.

Also sold separately from 1 piece up. ➔ P.809

1 Individual Sales ➔ P.809	Cleanroom Wash & Packaging ➔ P.807	Screw Length Adjustment ➔ P.811	Vibration Resistant ➔ P.810	Modification process for captive use ➔ P.806
Available / Add'l charge	Available / Add'l charge	Not Available	Not Available	Not Available

SPT-N / SPT-W Plastic Screw - Hex Nuts / Washers - PTFE : Teflon

WEB Selection Tool WEB CAD Download Heat-resistance Chemical-proof



Material/Finish RoHS2 Compliant

	SPT-N / SPT-W
Main body	PTFE (Tetrafluoroethylene : Teflon*1) /White
Heat Resistance Temperature*2	260°C

*1 : Teflon is a registered trademark of DuPont.
*2 : This is the value for the plastic material. The maximum operating temperature of the product changes with performance conditions such as tightening torque.



- PTFE (Teflon) is a plastic with excellent heat resistance, electrical properties, chemical resistance, and abrasion resistance. Most chemicals cannot penetrate it.
- It has high incombustibility that meets V-0 of UL 94.
- The properties and precautions of plastic screws ➡ P.735

Application
FPD production equipment, semiconductor devices, printed circuit board etching devices, metallic surface treatment equipment and facilities, and chemical plants

SPT-N Hex Nuts Unit : mm					
Part Number	M	B	T	Mass (g)	Qty per pack
SPT-M3-N	M3	5.5	2.4	0.09	1
SPT-M4-N	M4	7	3.2	0.21	1
SPT-M5-N	M5	8	4	0.37	1
SPT-M6-N	M6	10	5	0.67	1
SPT-M8-N	M8	13	6.5	1.5	1
SPT-M10-N	M10	17	9	2.8	1
SPT-M12-N	M12	19	10	4.2	1

SPT-W Washers						Unit : mm
Part Number	d	D	t	Nominal	Mass (g)	Qty per pack
SPT-3-W	3.2	7	0.5	3	0.032	1
SPT-4-W	4.3	9	0.8	4	0.082	1
SPT-5-W	5.3	10	1	5	0.12	1
SPT-6-W	6.4	12.5	1.6	6	0.3	1
SPT-8-W	8.4	17	1.6	8	0.57	1
SPT-10-W	10.5	21	2	10	1.1	1
SPT-12-W	13	24	2.5	12	1.7	1

Part number specification

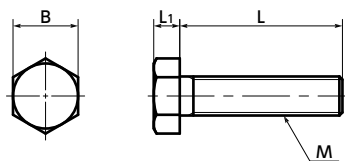
SPT-M8-N

1

1 Individual Sales ➡ P.809	Cleanroom Wash & Packaging ➡ P.807	Screw Length Adjustment ➡ P.811	Vibration Resistant ➡ P.810	Modification process for captive use ➡ P.806
1 pc. in 1 bag	Available / Add'l charge	Not Available	Not Available	Not Available

SPT-H Plastic Screw - Hex Head Screws - PTFE : Teflon

WEB Selection Tool WEB CAD Download Heat-resistance Chemical-proof



Material/Finish RoHS2 Compliant

	SPT-H
Main body	PTFE (Tetrafluoroethylene : Teflon*1) /White
Heat Resistance Temperature*2	260°C

*1 : Teflon is a registered trademark of DuPont.
*2 : This is the value for the plastic material. The maximum operating temperature of the product changes with performance conditions such as tightening torque.

- PTFE (Teflon) is a plastic with excellent heat resistance, electrical properties, chemical resistance, and abrasion resistance. Most chemicals cannot penetrate it.
- It has high incombustibility that meets V-0 of UL 94.
- The properties and precautions of plastic screws ➡ P.735

Application
FPD production equipment, semiconductor devices, printed circuit board etching devices, metallic surface treatment equipment and facilities, and chemical plants

Unit : mm													
Part Number	M	L		B		L1		Tension*1 Rupture Load (N)		Mass (g)			
SPT-M3-H	M3	6	8	10	12	16	20						
SPT-M4-H	M4		8	10	12	16	20	25					
SPT-M5-H	M5			10	12	16	20	25	30				
SPT-M6-H	M6			10	12	16	20	25	30	40			
SPT-M8-H	M8					16	20	25	30	40	50		
SPT-M10-H	M10						20	25	30	40			
SPT-M12-H	M12							25	30	40	50	60	

*1 : Values in chart are for reference only. They are not guaranteed values.

Part Number	Qty per pack
SPT-M3-H	1
SPT-M4-H	1
SPT-M5-H	1
SPT-M6-H	1
SPT-M8-H	1
SPT-M10-H	1
SPT-M12-H	1

Part number specification

SPT-M8-40-H

Product Code 1 2 Product Code

1 Individual Sales ➡ P.809	Cleanroom Wash & Packaging ➡ P.807	Screw Length Adjustment ➡ P.811	Vibration Resistant ➡ P.810	Modification process for captive use ➡ P.806
1 unit in 1 bag	Available / Add'l charge	Available / Add'l charge	Not Available	Not Available